

=> b casre

FILE 'CASREACT' ENTERED AT 14:08:06 ON 13 AUG 2008  
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FILE CONTENT:1840 - 11 Aug 2008 VOL 149 ISS 7

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*                                     *
*      CASREACT now has more than 15.3 million reactions      *
*                                     *
*****
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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

(FILE 'HOME' ENTERED AT 14:03:34 ON 13 AUG 2008)

FILE 'CASREACT' ENTERED AT 14:03:59 ON 13 AUG 2008  
ACT J086C1R/A

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L2          SCR 1841
L3          973 SEA FILE=CASREACT SSS FUL L1 AND L2 ( 6405 REACTIONS)
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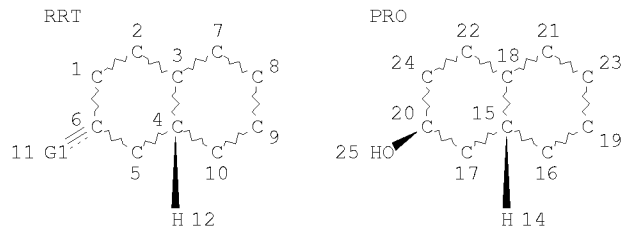
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L4 7244 OC4-C5-OC5-C6-C6-C6/ES

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L5 58 L3 AND L4  
L6 38 L5 AND (PD<=20021028 OR AD<=20021028 OR PRD<=20021028)

FILE 'CASREACT' ENTERED AT 14:08:06 ON 13 AUG 2008

=> d que sta l3

L1 STR



VAR G1=O/S

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 24

STEREO ATTRIBUTES:  
STEREO DEFAULT RELATIVE  
NUMBER OF CHIRAL CENTERS IS 3  
L2 SCR 1841  
L3 973 SEA FILE=CASREACT SSS FUL L1 AND L2 ( 6405 REACTIONS)  
  
99.1% DONE 1000000 VERIFIED 6405 HIT RXNS 973 DOCS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.43  
  
FULL FILE PROJECTIONS: ONLINE \*\*INCOMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED VERIFICATIONS: 1008972 TO 1008972  
PROJECTED ANSWERS: 973 TO 1134

=> d bib abs crd l6 tot

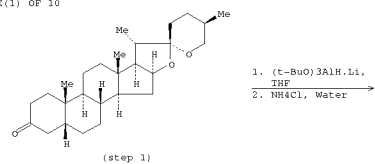
L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 140:375358 CASREACT  
 TI Stereospecific reduction of sapogen-3-ones  
 IN Gunning, Philip James; Tiffin, Peter David  
 PA Phytotech Limited, UK  
 SO PCT Int. Appl., 41 pp.  
 CODEN: PIIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO--2004037845	A1	20040506	2003WO-GB0001780	20030428
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BS, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LB, LS, LI, LU, LV, MA, MD, MG, MK, MN, MW, MX, NZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TY, UA, UG, US, VE, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MM, MG, SD, SL, SE, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GB, GD, GW, ML, MR, NE, SN, TD, TG CA-----2503899 A1 20040506 2003CA-002503899 20030428 AU--2003224308 A1 20040513 2003AU-000224308 20030428 EP-----1558627 A1 20050803 2003EP-000720733 20030428 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK BR--2003015746 A 20050906 2003BR-000015746 20030428 CN-----1723218 A 20060118 2003CN-000824744 20030428 JP--2006507360 T 20060302 2005JP-000501542 20030428 CN--101195650 A 20080611 2007CN-010169938 20030428 RU-----2326890 C2 20080620 2005RU-000111593 20030428 IN-2005MN00308 A 20060505 2005IN-MN0000308 20050420 MX-2005PA04494 A 20050726 2005MX-PA0004494 20050427 US-20060041119 A1 20060223 2005US-000531086 20050621 IN-2007MN01247 A 20071019 2007IN-MN0001247 20070817 PRAI 2002GB-000025106 20021028 2003GB-000001505 20030122 2003CN-000824744 20030428 2003WO-GB0001780 20030428 2005IN-MN0000308 20050420 MARPAT 140:375358				

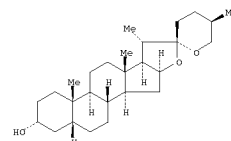
OS MARPAT 140:375358  
 AB A method to stereospecifically prepare a steroidal sapogenin or a derivative thereof by reducing a 3-keto,5 $\beta$ -H steroidal sapogenin with a hindered organoborane or an organo-aluminum hydride. A 3 $\beta$ -hydroxy,5 $\beta$ -H steroidal sapogenin or derivative may be prepared by reducing the 3-keto,5 $\beta$ -H steroidal sapogenin using as reducing agent which is a relatively highly hindered organoborane reagent or by SN 2 inversion of a 3 $\alpha$ -hydroxy,5 $\beta$ -H steroidal sapogenin or derivative. The organo-aluminum hydride may be used to prepare a 3 $\alpha$ ,hydroxy,5 $\beta$ -H steroidal sapogenin or derivative. The invention provides a convenient route to useful steroidal sapogenins such as sarsasapogenin, epiasarsapogenin, maliagenin, epimaliagenin and esters thereof, from readily available or easily prepared starting materials (e.g. diosgenone, prepared from diosgenin).

L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

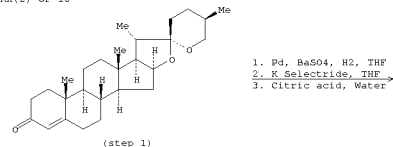
RX(1) OF 10



RX(1) OF 10

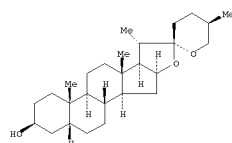


RX(2) OF 10



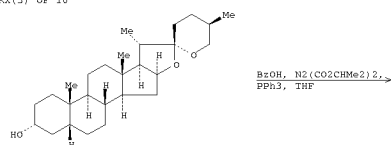
L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(2) OF 10

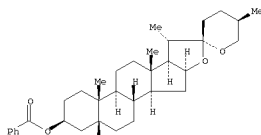


NOTE: under nitrogen  
 CON: STAGE(1) 5 hours, room temperature, 1 atm  
 STAGE(2) 30 minutes, -15 deg C  
 STAGE(3) 0 deg C

RX(3) OF 10

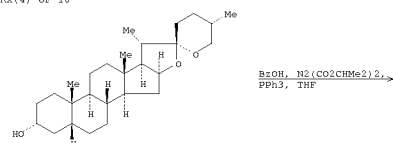


RX(3) OF 10

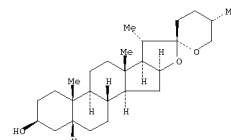


L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

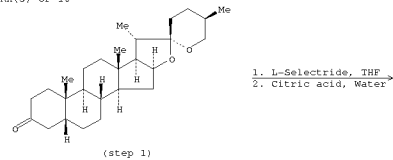
RX(4) OF 10



RX(4) OF 10

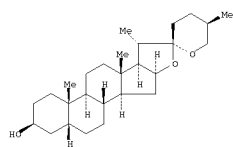


RX(5) OF 10



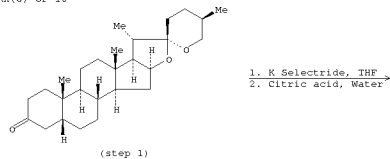
L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(5) OF 10

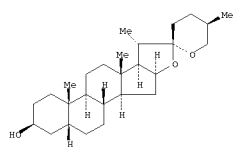


NOTE: nitrogen atm.  
CON: STAGE(1) 90 minutes, -10 deg C  
STAGE(2) 0 deg C

RX(6) OF 10



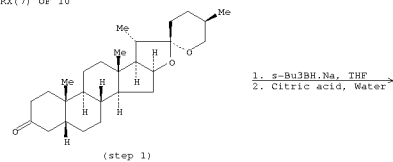
RX(6) OF 10



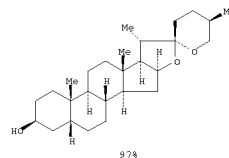
NOTE: nitrogen atm.  
CON: STAGE(1) 30 minutes, -15 deg C  
STAGE(2) 0 deg C

L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(7) OF 10

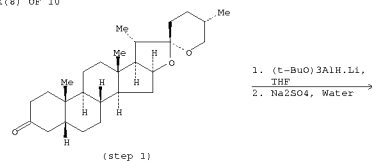


RX(7) OF 10



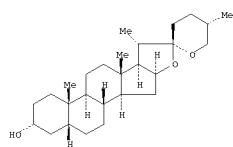
CON: STAGE(1) 10 minutes, -78 deg C  
STAGE(2) 0 deg C

RX(8) OF 10



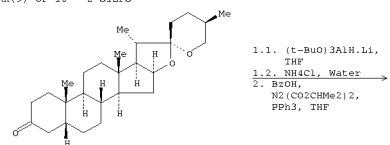
L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(8) OF 10

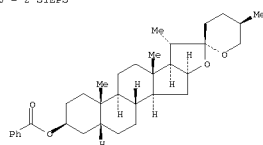


NOTE: nitrogen atm.  
CON: 5 hours, -23 - -30 deg C

RX(9) OF 10 - 2 STEPS

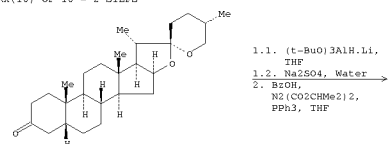


RX(9) OF 10 - 2 STEPS



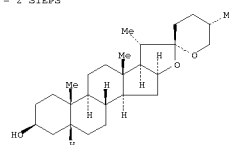
CON: STEP(1) 2 hours, 14 deg C -> room temperature  
STEP(2) 2 hours, room temperature

RX(10) OF 10 - 2 STEPS



L6 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(10) OF 10 - 2 STEPS



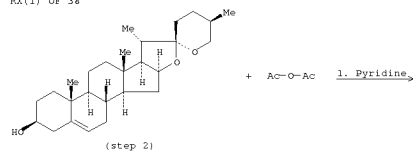
NOTE: 1) nitrogen atm.  
CON: STEP(1) 5 hours, -23 - -30 deg C  
STEP(2) 2 hours, room temperature

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN  
 AN 138:36957 CASREACT  
 TI Ecdysteroid analogs based on steroidal sapogenins I. Synthesis of bromo-derivatives from diosgenin. Preliminary study of their biological activity  
 AU Castro, Armando Zaldo; Tacoronte, Juan Enrique; Manchado, Francisco Coll; De la Paz, Lucita Aguilera; Cabrera, Maria Teresa  
 CS Faculty of Chemistry, Dept. Organic Chemistry, Laboratory of Natural Products, University of Havana, Havana, Cuba  
 SO Revista CENIC, Ciencias Quimicas (2002), 33(1), 19-24  
 CODEN: RCCQER; ISSN: 1015-8553  
 PB Centro Nacional de Investigaciones Cientificas  
 DT Journal  
 LA English  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

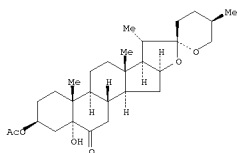
AB Ecdysteroids represent a large family of steroids comprising more than 100 compds. They have been found in both invertebrates and plant kingdom where they play an important role in some facets of development, metamorphosis and reproduction. In plants, they provide a potential protection against phytophagous predators. The aim of the undertaken report is the synthesis and structural elucidation, through NMR (1H-13C) and FTIR techniques, of advanced intermediates synthesized from naturally and com. available steroidal sapogenin diosgenin. Some classic reactions and optimized variants were used for obtaining more than 10 intermediates: epoxidations, and oxidative cleavage of oxiranic rings, cis-hydroxylation to double bonds and  $\alpha$ -halogenation to carbonyl compds. The biol. activity of several obtained intermediates, e.g. I and II, was researched in order to establish the real potential of these derivs. as insecticides. The results suggest that this kind of bromine derivs. could be used as genetic modulator for controlling *Blattella germanica*, a typical cockroach pest in human communities.

RX(1) OF 38



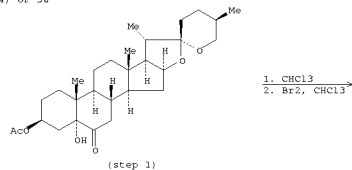
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(3) OF 38

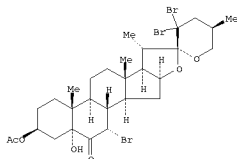


NOTE: stereoselective  
 CON: STAGE(1) room temperature  
 STAGE(2) reflux

RX(4) OF 38



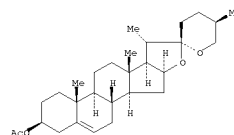
RX(4) OF 38



NOTE: key step, stereoselective  
 CON: STAGE(1) room temperature  
 STAGE(2) 2 hours, room temperature

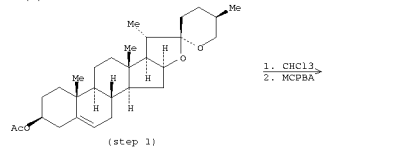
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(1) OF 38



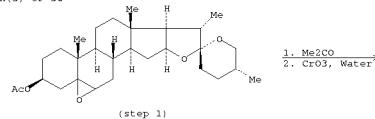
CON: STAGE(1) room temperature  
 STAGE(2) 24 hours, room temperature

RX(2) OF 38



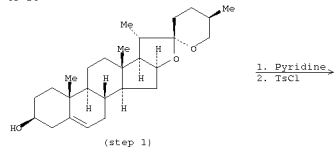
CON: STAGE(1) room temperature  
 STAGE(2) 30 minutes, room temperature

RX(3) OF 38

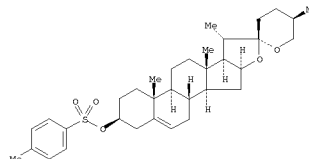


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(5) OF 38

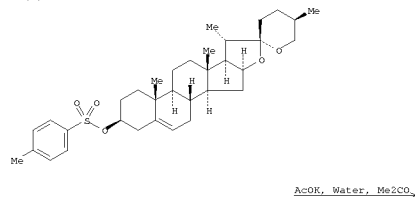


RX(5) OF 38



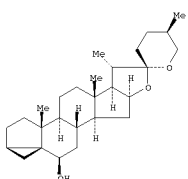
CON: STAGE(1) room temperature  
 STAGE(2) 20 hours, room temperature

RX(6) OF 38



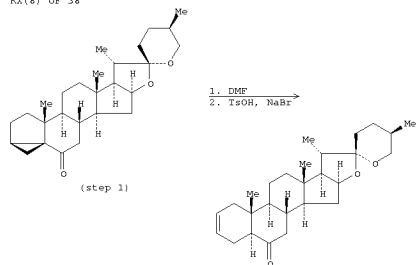
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(6) OF 38



CON: 20 hours, reflux

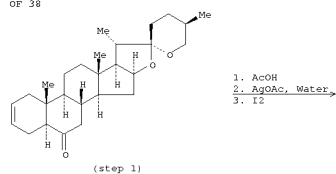
RX(8) OF 38



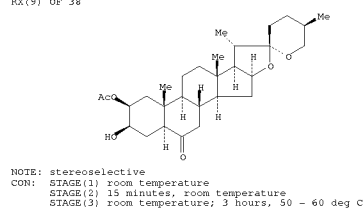
CON: STAGE(1) room temperature  
STAGE(2) room temperature; 3 hours, reflux

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(9) OF 38

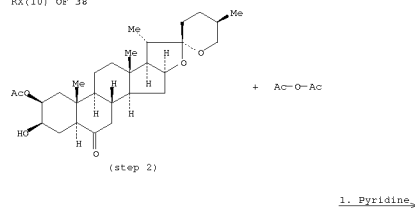


RX(9) OF 38



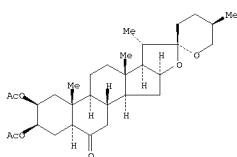
NOTE: stereoselective  
CON: STAGE(1) room temperature  
STAGE(2) 15 minutes, room temperature  
STAGE(3) room temperature; 3 hours, 50 - 60 deg C

RX(10) OF 38



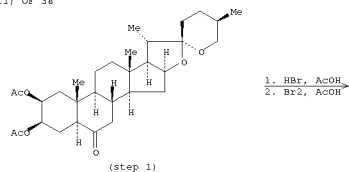
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(10) OF 38

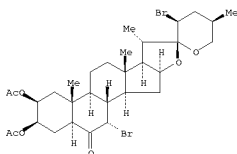


CON: STAGE(1) room temperature  
STAGE(2) 24 hours, room temperature

RX(11) OF 38



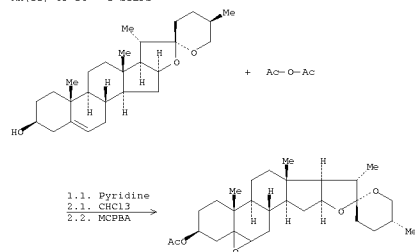
RX(11) OF 38



NOTE: key step, stereoselective  
CON: STAGE(1) room temperature  
STAGE(2) room temperature; 2 hours, 50 deg C

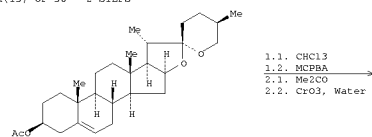
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(12) OF 38 - 2 STEPS

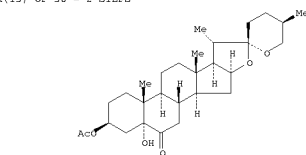


CON: STEP(1.1) room temperature  
STEP(1.2) 24 hours, room temperature  
STEP(2.1) room temperature  
STEP(2.2) 30 minutes, room temperature

RX(13) OF 38 - 2 STEPS



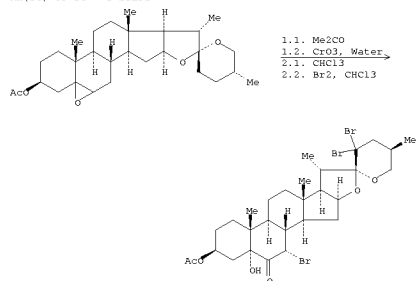
RX(13) OF 38 - 2 STEPS



NOTE: 2) stereoselective  
CON: STEP(1.1) room temperature  
STEP(1.2) 30 minutes, room temperature  
STEP(2.1) room temperature  
STEP(2.2) reflux

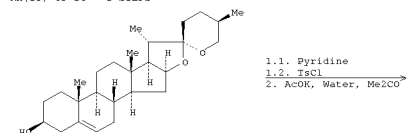
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(14) OF 38 - 2 STEPS



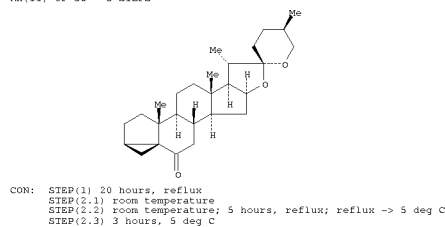
NOTE: 1) stereoselective, 2) key step, stereoselective  
 CON: STEP(1.1) room temperature  
 STEP(1.2) reflux  
 STEP(2.1) room temperature  
 STEP(2.2) 2 hours, room temperature

RX(15) OF 38 - 2 STEPS

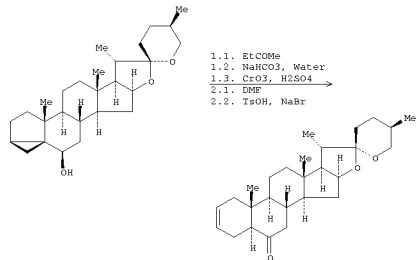


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(16) OF 38 - 2 STEPS



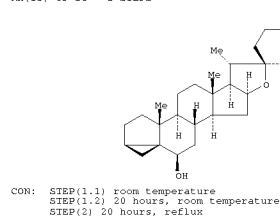
RX(17) OF 38 - 2 STEPS



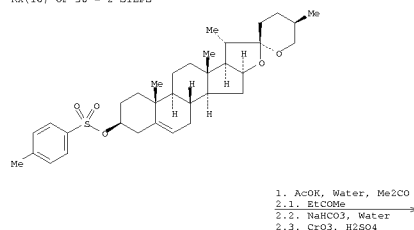
CON: STEP(1.1) room temperature  
 STEP(1.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
 STEP(1.3) 3 hours, 5 deg C  
 STEP(2.1) room temperature  
 STEP(2.2) room temperature; 3 hours, reflux

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(15) OF 38 - 2 STEPS

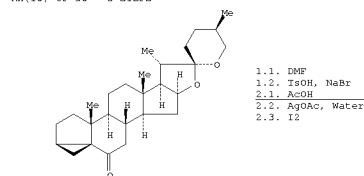


RX(16) OF 38 - 2 STEPS

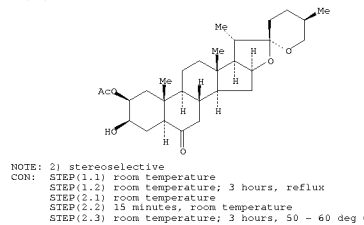


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

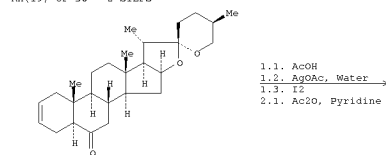
RX(18) OF 38 - 2 STEPS



RX(18) OF 38 - 2 STEPS

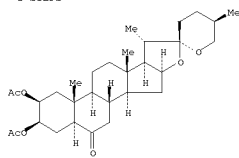


RX(19) OF 38 - 2 STEPS



L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

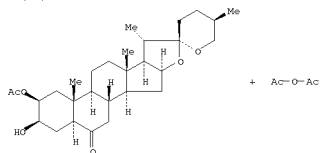
RX(19) OF 38 - 2 STEPS



NOTE: 1) stereoselective

CON: STEP(1.1) room temperature  
 STEP(1.2) 15 minutes, room temperature  
 STEP(1.3) room temperature; 3 hours, 50 - 60 deg C  
 STEP(2.1) room temperature  
 STEP(2.2) 24 hours, room temperature

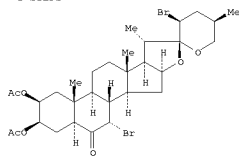
RX(20) OF 38 - 2 STEPS



+ Ac-O-Ac

1.1. Pyridine  
 2.1. HBr, AcOH  
 2.2. Br2, AcOH

RX(20) OF 38 - 2 STEPS

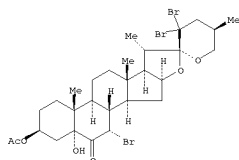


NOTE: 2) key step, stereoselective

CON: STEP(1.1) room temperature  
 STEP(1.2) 24 hours, room temperature  
 STEP(2.1) room temperature  
 STEP(2.2) room temperature; 2 hours, 50 deg C

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

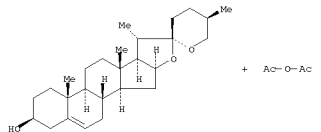
RX(22) OF 38 - 3 STEPS



NOTE: 2) stereoselective, 3) key step, stereoselective

CON: STEP(1.1) room temperature  
 STEP(1.2) 30 minutes, room temperature  
 STEP(2.1) room temperature  
 STEP(2.2) reflux  
 STEP(3.1) room temperature  
 STEP(3.2) 2 hours, room temperature

RX(23) OF 38 - 4 STEPS

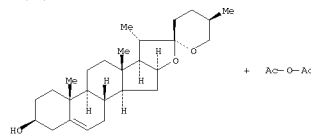


+ Ac-O-Ac

1.1. Pyridine  
 2.1. CHCl3  
 2.2. MCPBA  
 3.1. Me2CO  
 3.2. CrO3, Water  
 4.1. CHCl3  
 4.2. Br2, CHCl3

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

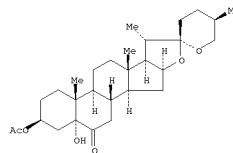
RX(21) OF 38 - 3 STEPS



+ Ac-O-Ac

1.1. Pyridine  
 2.1. CHCl3  
 2.2. MCPBA  
 3.1. Me2CO  
 3.2. CrO3, Water

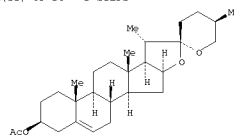
RX(21) OF 38 - 3 STEPS



NOTE: 3) stereoselective

CON: STEP(1.1) room temperature  
 STEP(1.2) 24 hours, room temperature  
 STEP(2.1) room temperature  
 STEP(2.2) 30 minutes, room temperature  
 STEP(3.1) room temperature  
 STEP(3.2) reflux

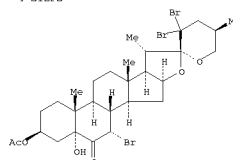
RX(22) OF 38 - 3 STEPS



1.1. CHCl3  
 1.2. MCPBA  
 2.1. Me2CO  
 2.2. CrO3, Water  
 3.1. CHCl3  
 3.2. Br2, CHCl3

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

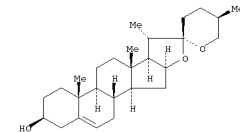
RX(23) OF 38 - 4 STEPS



NOTE: 3) stereoselective, 4) key step, stereoselective

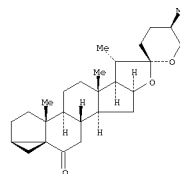
CON: STEP(1.1) room temperature  
 STEP(1.2) 24 hours, room temperature  
 STEP(2.1) room temperature  
 STEP(2.2) 30 minutes, room temperature  
 STEP(3.1) room temperature  
 STEP(3.2) reflux  
 STEP(4.1) room temperature  
 STEP(4.2) 2 hours, room temperature

RX(24) OF 38 - 3 STEPS



1.1. Pyridine  
 1.2. TsCl  
 2. AcOK, Water, Me2CO  
 3.1. EtOMe  
 3.2. NaHCO3, Water  
 3.3. CrO3, H2SO4

RX(24) OF 38 - 3 STEPS

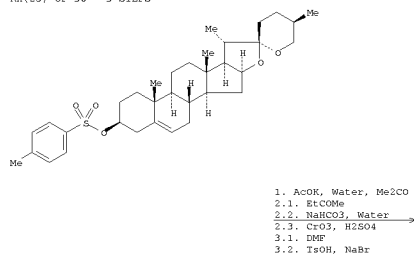


CON: STEP(1.1) room temperature  
 STEP(1.2) 20 hours, room temperature  
 STEP(2) 20 hours, reflux  
 STEP(3.1) room temperature  
 STEP(3.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
 STEP(3.3) 3 hours, 5 deg C

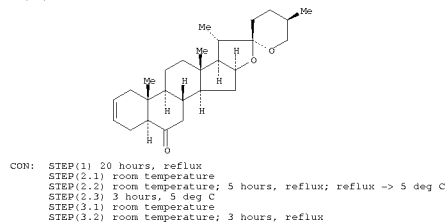


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

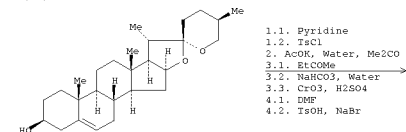
RX(25) OF 38 - 3 STEPS



RX(25) OF 38 - 3 STEPS

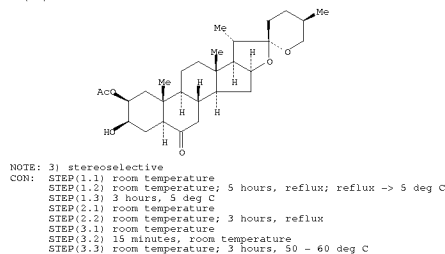


RX(26) OF 38 - 4 STEPS

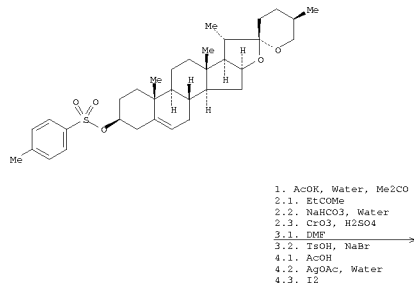


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(27) OF 38 - 3 STEPS

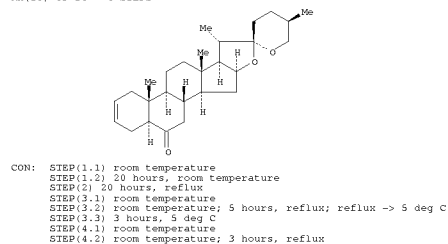


RX(28) OF 38 - 4 STEPS

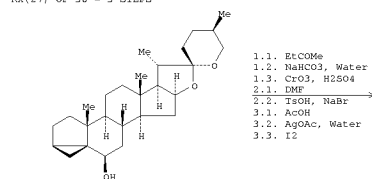


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(26) OF 38 - 4 STEPS

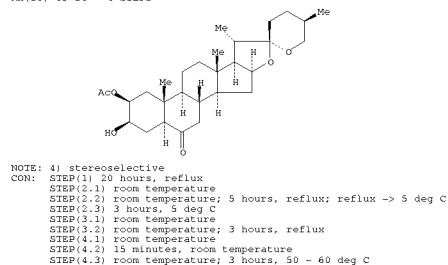


RX(27) OF 38 - 3 STEPS

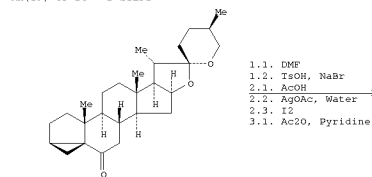


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

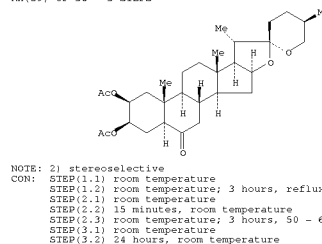
RX(28) OF 38 - 4 STEPS



RX(29) OF 38 - 3 STEPS

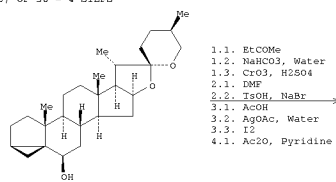


RX(29) OF 38 - 3 STEPS

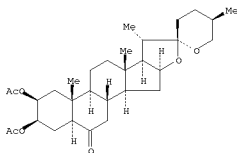


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(30) OF 38 - 4 STEPS

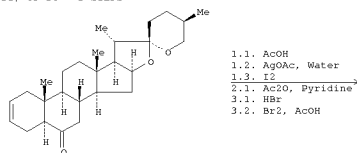


RX(30) OF 38 - 4 STEPS



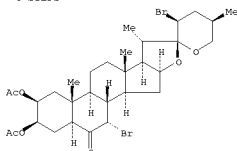
NOTE: 3) stereoselective  
CON: STEP(1.1) room temperature  
STEP(1.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
STEP(1.3) 3 hours, 5 deg C  
STEP(2.1) room temperature  
STEP(2.2) room temperature; 3 hours, reflux  
STEP(3.1) room temperature  
STEP(3.2) 15 minutes, room temperature  
STEP(3.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(4.1) room temperature  
STEP(4.2) 24 hours, room temperature

RX(31) OF 38 - 3 STEPS



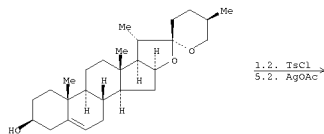
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(32) OF 38 - 4 STEPS

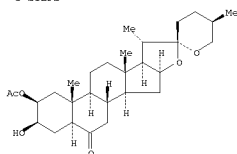


NOTE: 2) stereoselective, 4) key step, stereoselective  
CON: STEP(1.1) room temperature  
STEP(1.2) room temperature; 3 hours, reflux  
STEP(2.1) room temperature  
STEP(2.2) 15 minutes, room temperature  
STEP(2.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(3.1) room temperature  
STEP(3.2) 24 hours, room temperature  
STEP(4.1) room temperature  
STEP(4.2) room temperature; 2 hours, 50 deg C

RX(33) OF 38 - 5 STEPS

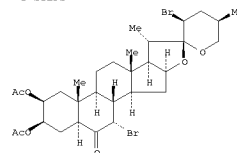


RX(33) OF 38 - 5 STEPS



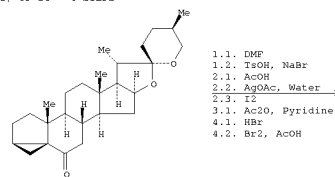
L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(31) OF 38 - 3 STEPS



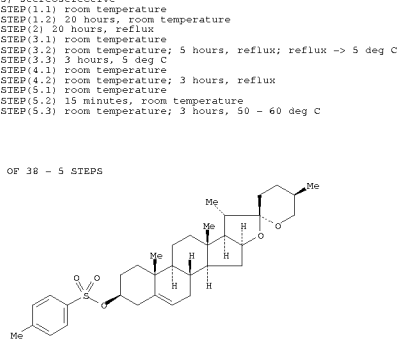
NOTE: 1) stereoselective, 3) key step, stereoselective  
CON: STEP(1.1) room temperature  
STEP(1.2) 15 minutes, room temperature  
STEP(1.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(2.1) room temperature  
STEP(2.2) 24 hours, room temperature  
STEP(3.1) room temperature  
STEP(3.2) room temperature; 2 hours, 50 deg C

RX(32) OF 38 - 4 STEPS

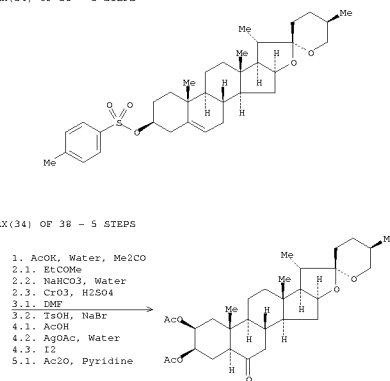


L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(34) OF 38 - 5 STEPS



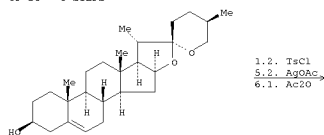
RX(34) OF 38 - 5 STEPS



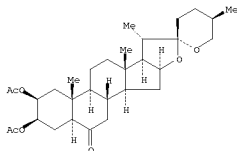
NOTE: 4) stereoselective  
CON: STEP(1) 20 hours, reflux  
STEP(2.1) room temperature  
STEP(2.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
STEP(2.3) 3 hours, 5 deg C  
STEP(3.1) room temperature  
STEP(3.2) room temperature; 3 hours, reflux  
STEP(4.1) room temperature  
STEP(4.2) 15 minutes, room temperature  
STEP(4.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(5.1) room temperature  
STEP(5.2) 24 hours, room temperature

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(35) OF 38 - 6 STEPS



RX(35) OF 38 - 6 STEPS

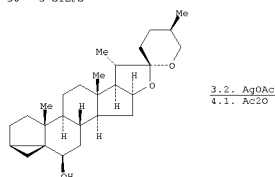


NOTE: 5) stereoselective

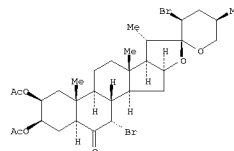
CON: STEP(1.1) room temperature  
STEP(1.2) 20 hours, room temperature  
STEP(2) 20 hours, reflux  
STEP(3.1) room temperature  
STEP(3.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
STEP(3.3) 3 hours, 5 deg C  
STEP(4.1) room temperature  
STEP(4.2) room temperature; 3 hours, reflux  
STEP(5.1) room temperature  
STEP(5.2) 15 minutes, room temperature  
STEP(5.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(6.1) room temperature  
STEP(6.2) 24 hours, room temperature

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(36) OF 38 - 5 STEPS



RX(36) OF 38 - 5 STEPS

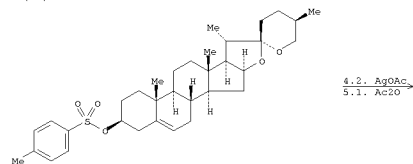


NOTE: 3) stereoselective, 5) key step, stereoselective

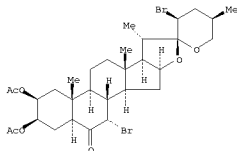
CON: STEP(1.1) room temperature  
STEP(1.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
STEP(1.3) 3 hours, 5 deg C  
STEP(2.1) room temperature  
STEP(2.2) room temperature; 3 hours, reflux  
STEP(3.1) room temperature  
STEP(3.2) 15 minutes, room temperature  
STEP(3.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(4.1) room temperature  
STEP(4.2) 24 hours, room temperature  
STEP(5.1) room temperature  
STEP(5.2) room temperature; 2 hours, 50 deg C

L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(37) OF 38 - 6 STEPS



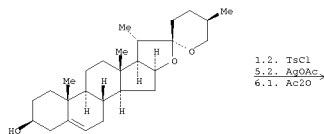
RX(37) OF 38 - 6 STEPS



NOTE: 4) stereoselective, 6) key step, stereoselective

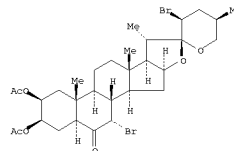
CON: STEP(1) 20 hours, reflux  
STEP(2.1) room temperature  
STEP(2.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
STEP(2.3) 3 hours, 5 deg C  
STEP(3.1) room temperature  
STEP(3.2) room temperature; 3 hours, reflux  
STEP(4.1) room temperature  
STEP(4.2) 15 minutes, room temperature  
STEP(4.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(5.1) room temperature  
STEP(5.2) 24 hours, room temperature  
STEP(6.1) room temperature  
STEP(6.2) room temperature; 2 hours, 50 deg C

RX(38) OF 38 - 7 STEPS



L6 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(38) OF 38 - 7 STEPS



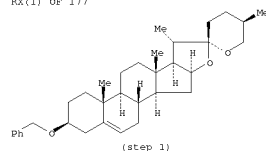
NOTE: 5) stereoselective, 7) key step, stereoselective

CON: STEP(1.1) room temperature  
STEP(1.2) 20 hours, room temperature  
STEP(2) 20 hours, reflux  
STEP(3.1) room temperature  
STEP(3.2) room temperature; 5 hours, reflux; reflux -> 5 deg C  
STEP(3.3) 3 hours, 5 deg C  
STEP(4.1) room temperature  
STEP(4.2) room temperature; 3 hours, reflux  
STEP(5.1) room temperature  
STEP(5.2) 15 minutes, room temperature  
STEP(5.3) room temperature; 3 hours, 50 - 60 deg C  
STEP(6.1) room temperature  
STEP(6.2) 24 hours, room temperature  
STEP(7.1) room temperature  
STEP(7.2) room temperature; 2 hours, 50 deg C

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 138:89978 CASREACT  
 TI Glycosyl Trifluoroacetimidates. 2. Synthesis of Dioscin and Xiebai Saponin I  
 AU Yu, Biao; Tao, Houchao  
 CS State Key Laboratory of Bio-organic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, 200032, Peop. Rep. China  
 SO Journal of Organic Chemistry (2002), 67(25), 9099-9102  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB Two trisaccharide steroidal saponins, dioscin and Xiebai saponin I with various bioactivities, were efficiently synthesized using the newly developed glycosyl W-Pn trifluoroacetimidates as glycosylation donors. Thus, dioscin was synthesized in five steps and a 33% overall yield from diosgenin and glycosyl trifluoroacetimidates. Xiebai saponin I was synthesized in eight steps and a 32% overall yield from lanogenin and glycosyl trifluoroacetimidates, whereupon the rare steroid lanogenin was prepared from diosgenin in four steps and an overall 6% yield. All the glycosylation reactions involved in the present syntheses demonstrated that glycosyl trifluoroacetimidates were successful donors comparable to the corresponding glycosyl trichloroacetimidates.

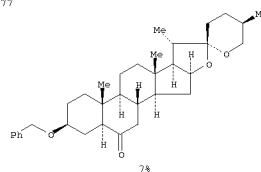
RX(1) OF 177



1. BH3-Me2S, THF  
 2. NaOH, H2O2, Water  
 3. NaCl, Water  
 4. Martin's reagent, CH2Cl2

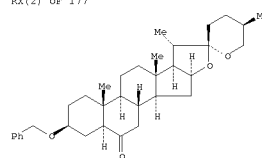
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(1) OF 177



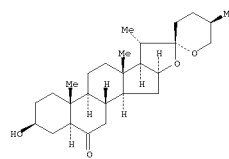
NOTE: stereoselective  
 CON: STAGE(1) 12 hours, room temperature  
 STAGE(2) overnight, room temperature; pH 7  
 STAGE(4) 5 hours, room temperature

RX(2) OF 177



Pd, H2, CH2Cl2, EtOH

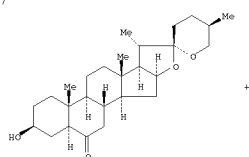
RX(2) OF 177



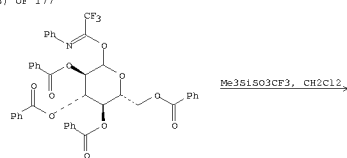
NOTE: stereoselective  
 CON: room temperature

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

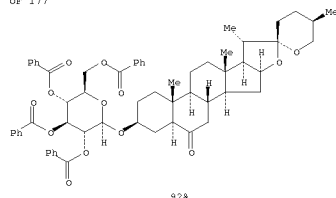
RX(3) OF 177



RX(3) OF 177



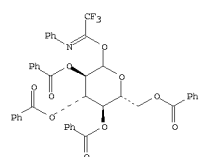
RX(3) OF 177



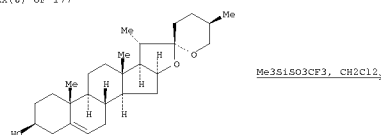
NOTE: stereoselective, mol. sieves used  
 CON: room temperature

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

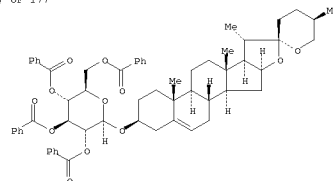
RX(8) OF 177



RX(8) OF 177



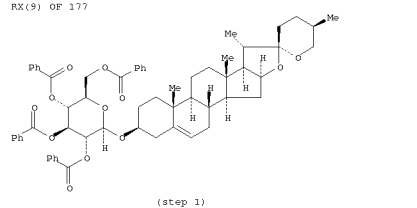
RX(8) OF 177



NOTE: stereoselective, mol. sieves used  
 CON: room temperature

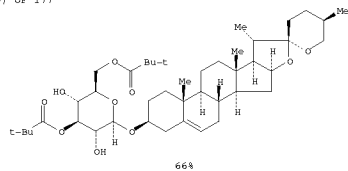
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(9) OF 177



1. NaOMe, MeOH  
2. Pivaloyl chloride,  $\xrightarrow{\text{Pyridine}}$

RX(9) OF 177



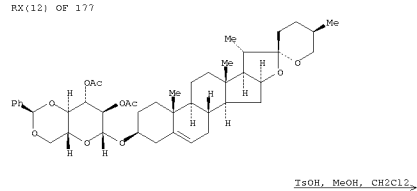
NOTE: stereoselective  
CON: STAGE(1) room temperature  
STAGE(2) 0 deg C

RX(10) OF 177 - REACTION DIAGRAM NOT AVAILABLE

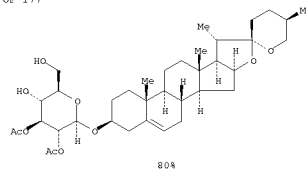
RX(11) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(12) OF 177

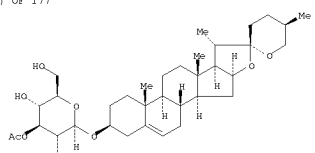


RX(12) OF 177



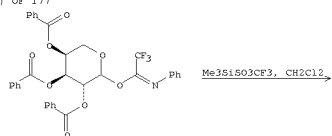
NOTE: stereoselective  
CON: room temperature

RX(13) OF 177

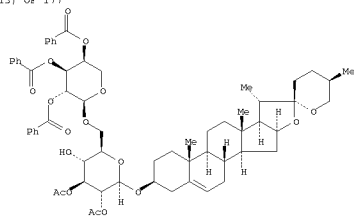


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(13) OF 177



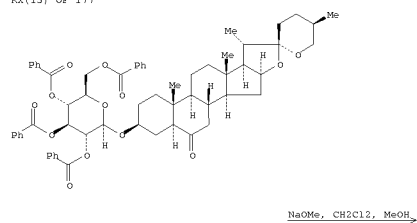
RX(13) OF 177



NOTE: stereoselective, mol. sieves used  
CON: -78 - room temperature deg C

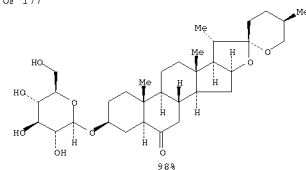
RX(14) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(15) OF 177



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(15) OF 177

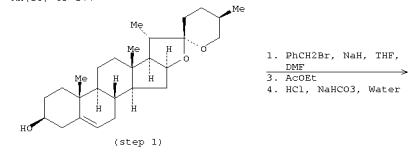


NOTE: stereoselective  
CON: STAGE(1) 2 hours, room temperature; pH 7

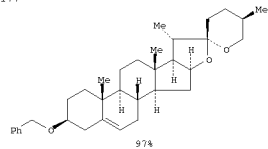
RX(16) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(17) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(18) OF 177



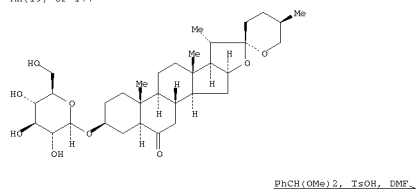
RX(18) OF 177



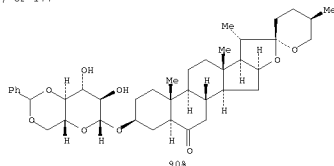
NOTE: stereoselective  
CON: STAGE(1) 1 hour, room temperature  
STAGE(2) 2 hours, room temperature; room temperature -> reflux

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(19) OF 177



RX(19) OF 177



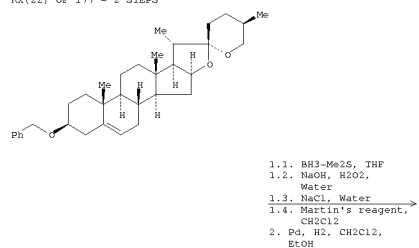
NOTE: stereoselective  
CON: 3 hours, 50 deg C, pH 3 - 4

RX(20) OF 177 - REACTION DIAGRAM NOT AVAILABLE

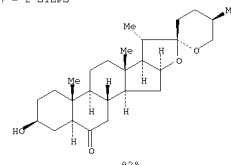
RX(21) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(22) OF 177 - 2 STEPS

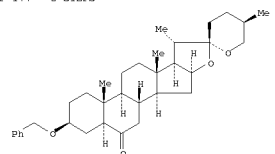


RX(22) OF 177 - 2 STEPS



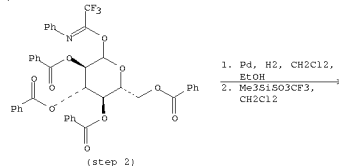
NOTE: 1) stereoselective, 2) stereoselective  
CON: STEP(1.1) 12 hours, room temperature  
STEP(1.2) overnight, room temperature; pH 7  
STEP(1.4) 5 hours, room temperature  
STEP(2) room temperature

RX(23) OF 177 - 2 STEPS

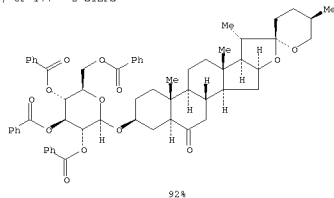


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(23) OF 177 - 2 STEPS

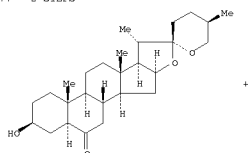


RX(23) OF 177 - 2 STEPS



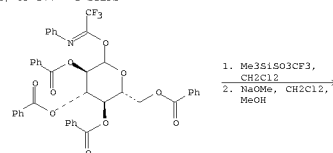
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used  
CON: STEP(1) room temperature  
STEP(2) room temperature

RX(24) OF 177 - 2 STEPS

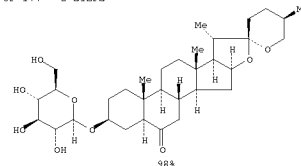


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(24) OF 177 - 2 STEPS

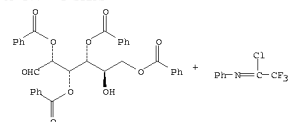


RX(24) OF 177 - 2 STEPS



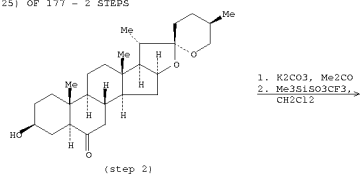
NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective  
CON: STEP(1) room temperature  
STEP(2.1) 2 hours, room temperature; pH 7

RX(25) OF 177 - 2 STEPS

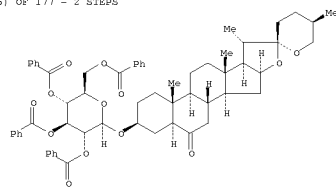


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(25) OF 177 - 2 STEPS

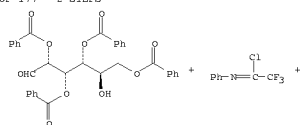


RX(25) OF 177 - 2 STEPS



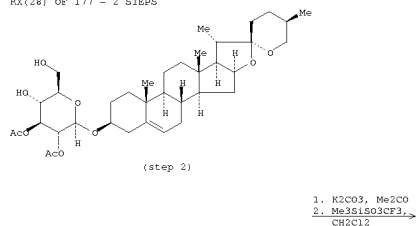
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature

RX(26) OF 177 - 2 STEPS

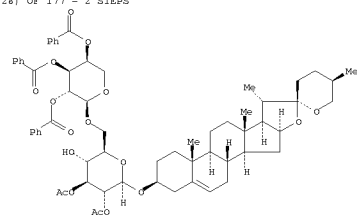


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(28) OF 177 - 2 STEPS



RX(28) OF 177 - 2 STEPS



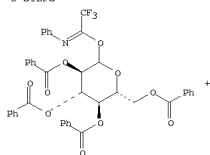
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) -78 - room temperature deg C

RX(29) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(30) OF 177 - REACTION DIAGRAM NOT AVAILABLE

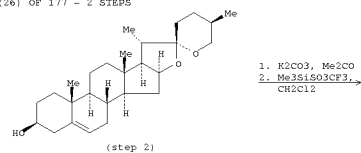
RX(31) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(32) OF 177 - 2 STEPS

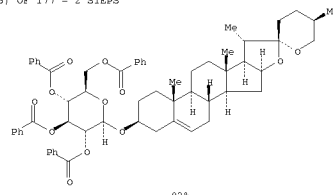


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(26) OF 177 - 2 STEPS



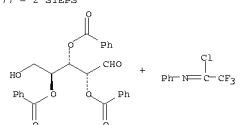
RX(26) OF 177 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature

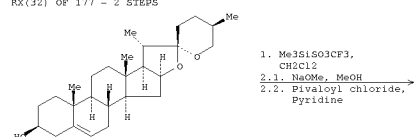
RX(27) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(28) OF 177 - 2 STEPS

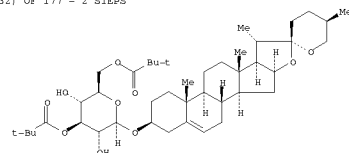


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(32) OF 177 - 2 STEPS



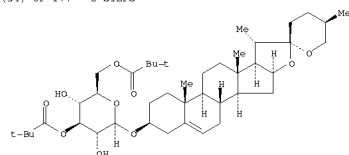
RX(32) OF 177 - 2 STEPS



NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective  
 CON: STEP(1) room temperature  
 STEP(2.1) room temperature  
 STEP(2.2) 0 deg C

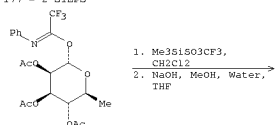
RX(33) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(34) OF 177 - 2 STEPS

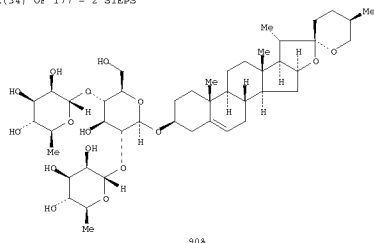


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(34) OF 177 - 2 STEPS

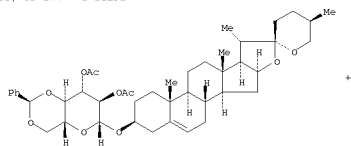


RX(34) OF 177 - 2 STEPS



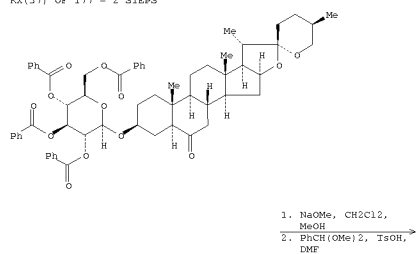
NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective  
 CON: STEP(1) room temperature  
 STEP(2) overnight, 40 deg C

RX(35) OF 177 - 2 STEPS

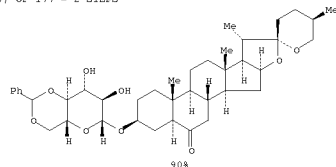


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(37) OF 177 - 2 STEPS



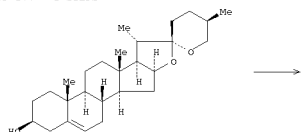
RX(37) OF 177 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective  
 CON: STEP(1.1) 2 hours, room temperature; pH 7  
 STEP(2) 3 hours, 50 deg C, pH 3 - 4

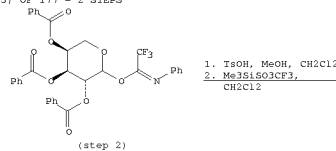
RX(38) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(39) OF 177 - 2 STEPS

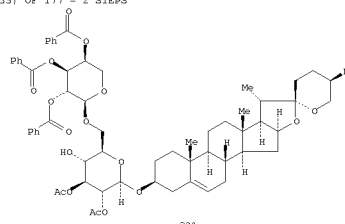


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(35) OF 177 - 2 STEPS



RX(35) OF 177 - 2 STEPS

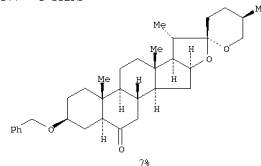


NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used  
 CON: STEP(1) room temperature  
 STEP(2) -78 - room temperature deg C

RX(36) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

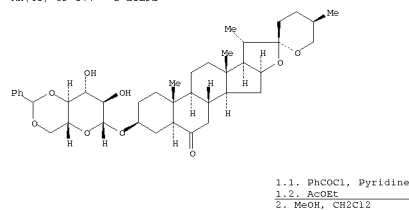
RX(39) OF 177 - 2 STEPS



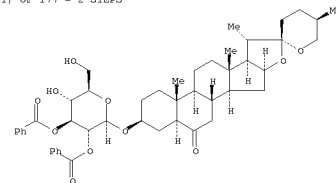
NOTE: 1) stereoselective, 2) stereoselective  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature

RX(40) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(41) OF 177 - 2 STEPS



RX(41) OF 177 - 2 STEPS

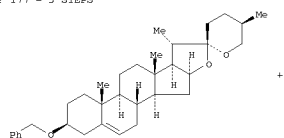


NOTE: 1) stereoselective, 2) stereoselective  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(2) 2.5 hours, reflux

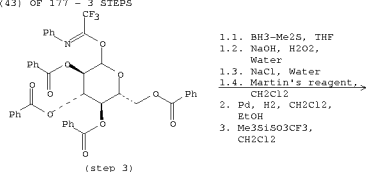


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)  
 RX(42) OF 177 - REACTION DIAGRAM NOT AVAILABLE

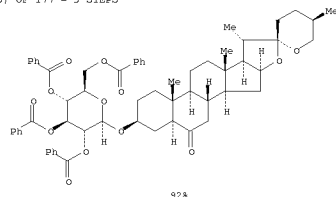
RX(43) OF 177 - 3 STEPS



RX(43) OF 177 - 3 STEPS



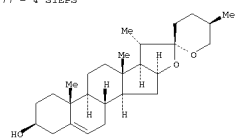
RX(43) OF 177 - 3 STEPS



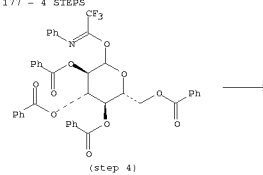
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, mol. sieves used  
 CON: STEP(1.1) 12 hours, room temperature  
 STEP(1.2) overnight, room temperature; pH 7  
 STEP(1.4) 5 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) room temperature

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

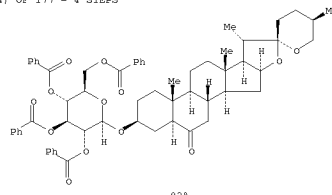
RX(44) OF 177 - 4 STEPS



RX(44) OF 177 - 4 STEPS



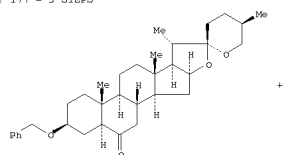
RX(44) OF 177 - 4 STEPS



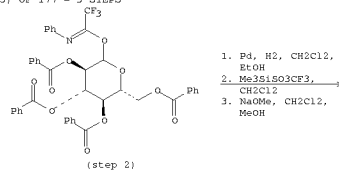
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, mol. sieves used  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature  
 STEP(4) room temperature

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

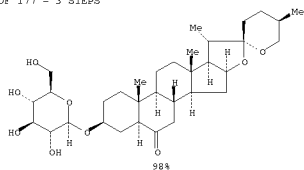
RX(45) OF 177 - 3 STEPS



RX(45) OF 177 - 3 STEPS



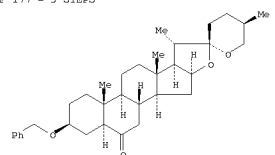
RX(45) OF 177 - 3 STEPS



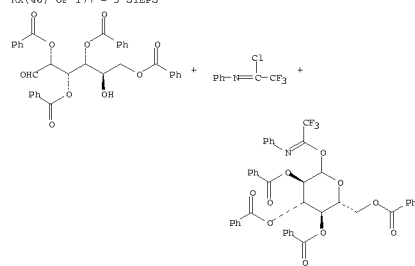
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective  
 CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(46) OF 177 - 3 STEPS

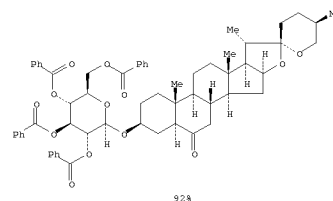


RX(46) OF 177 - 3 STEPS



RX(46) OF 177 - 3 STEPS

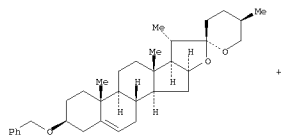
converging



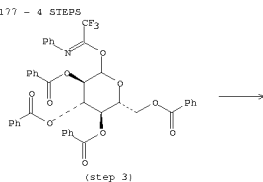
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective  
 CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3) 3 hours, room temperature

RX(47) OF 177 - 4 STEPS

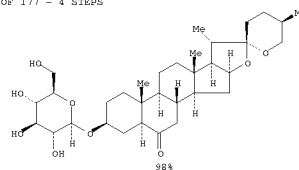


RX(47) OF 177 - 4 STEPS



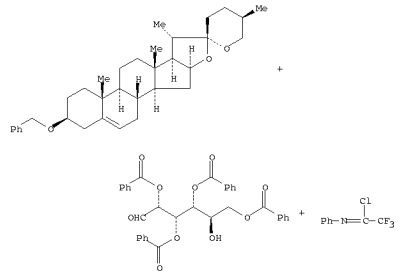
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(47) OF 177 - 4 STEPS



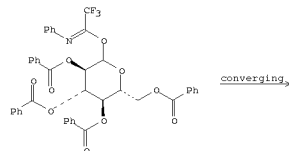
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, mol. sieves used, 4) stereoselective  
 CON: STEP(1.1) 12 hours, room temperature  
 STEP(1.2) overnight, room temperature; pH 7  
 STEP(1.4) 5 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) room temperature  
 STEP(4.1) 2 hours, room temperature; pH 7

RX(48) OF 177 - 4 STEPS

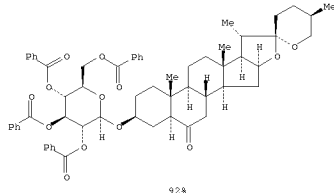


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(48) OF 177 - 4 STEPS

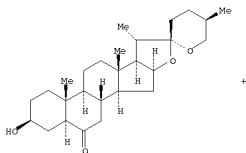


RX(48) OF 177 - 4 STEPS



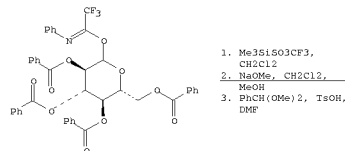
NOTE: stereoselective, stereoselective, stereoselective, mol. sieves used, stereoselective  
 CON: STEP(1.1) 12 hours, room temperature  
 STEP(1.2) overnight, room temperature; pH 7  
 STEP(1.4) 5 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) room temperature  
 STEP(4) 3 hours, room temperature

RX(49) OF 177 - 3 STEPS

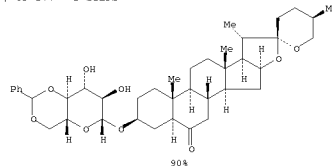


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(49) OF 177 - 3 STEPS

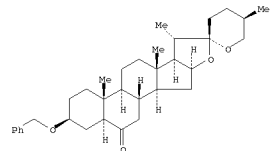


RX(49) OF 177 - 3 STEPS



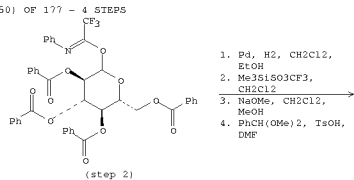
NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective, 3) stereoselective  
 CON: STEP(1) room temperature  
 STEP(2.1) 2 hours, room temperature; pH 7  
 STEP(3) 3 hours, 50 deg C, pH 3 - 4

RX(50) OF 177 - 4 STEPS

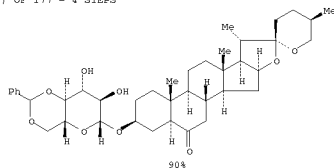


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(50) OF 177 - 4 STEPS

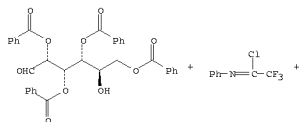


RX(50) OF 177 - 4 STEPS



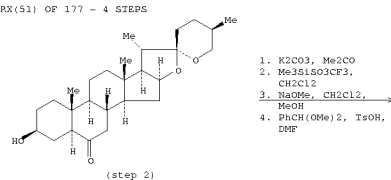
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective  
 CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, 50 deg C, pH 3 - 4

RX(51) OF 177 - 4 STEPS

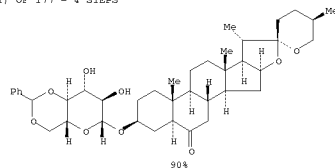


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(51) OF 177 - 4 STEPS

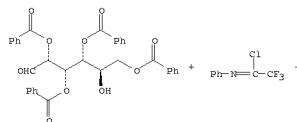


RX(51) OF 177 - 4 STEPS



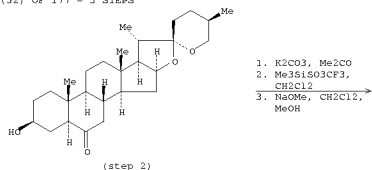
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, 50 deg C, pH 3 - 4

RX(52) OF 177 - 3 STEPS

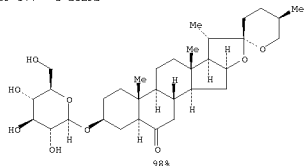


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(52) OF 177 - 3 STEPS

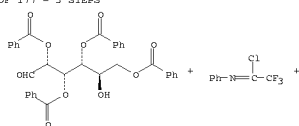


RX(52) OF 177 - 3 STEPS



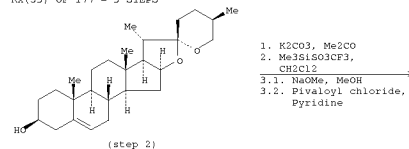
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7

RX(53) OF 177 - 3 STEPS

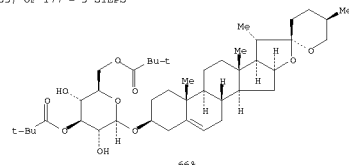


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(53) OF 177 - 3 STEPS



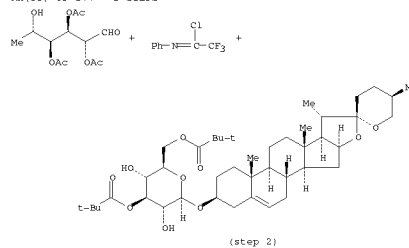
RX(53) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3.1) room temperature  
 STEP(3.2) 0 deg C

RX(54) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(55) OF 177 - 3 STEPS

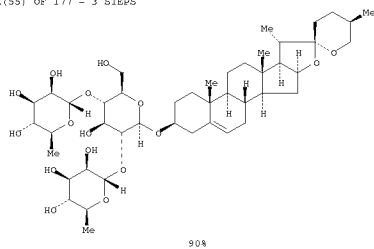


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(55) OF 177 - 3 STEPS

1. K<sub>2</sub>CO<sub>3</sub>, Me<sub>2</sub>CO  
 2. Me<sub>3</sub>SiOSiCF<sub>3</sub>,  
 CH<sub>2</sub>Cl<sub>2</sub>  
 3. NaOH, MeOH, Water, THF

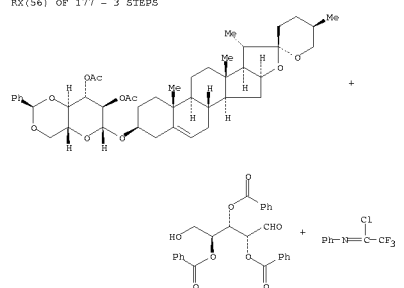
RX(55) OF 177 - 3 STEPS



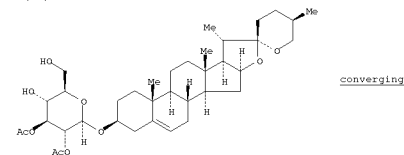
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) overnight, 40 deg C

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(56) OF 177 - 3 STEPS

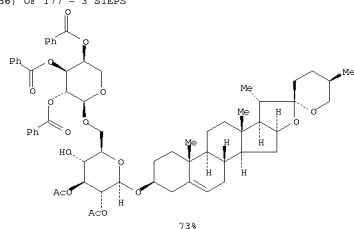


RX(56) OF 177 - 3 STEPS



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(56) OF 177 - 3 STEPS



NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) -78 - room temperature deg C  
 STEP(3) room temperature

RX(57) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(58) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(59) OF 177 - REACTION DIAGRAM NOT AVAILABLE

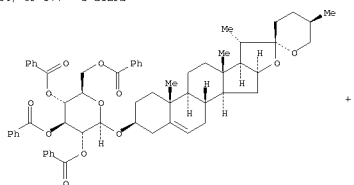
RX(60) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(61) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(62) OF 177 - REACTION DIAGRAM NOT AVAILABLE

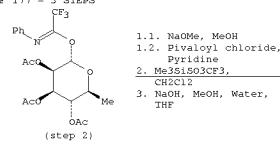
RX(63) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(64) OF 177 - 3 STEPS

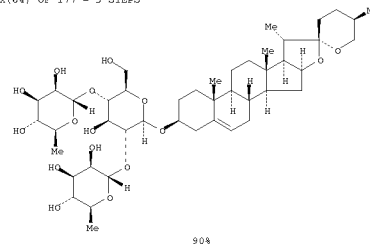


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(64) OF 177 - 3 STEPS



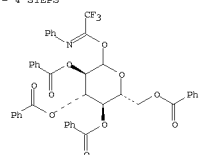
RX(64) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective  
 CON: STEP(1.1) room temperature  
 STEP(1.2) 0 deg C  
 STEP(2) room temperature  
 STEP(3) overnight, 40 deg C

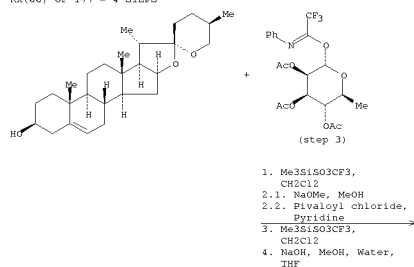
RX(65) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(66) OF 177 - 4 STEPS

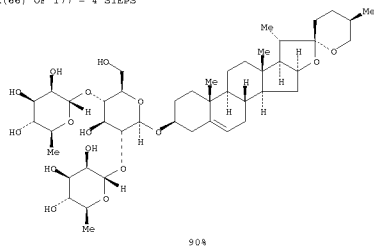


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(66) OF 177 - 4 STEPS



RX(66) OF 177 - 4 STEPS



NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective, 3) stereoselective, mol. sieves used, 4) stereoselective  
 CON: STEP(1) room temperature  
 STEP(2.1) room temperature  
 STEP(2.2) 0 deg C  
 STEP(3) room temperature  
 STEP(4) overnight, 40 deg C

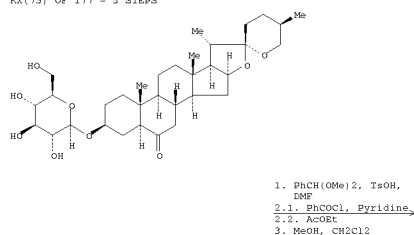
RX(67) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(68) OF 177 - REACTION DIAGRAM NOT AVAILABLE

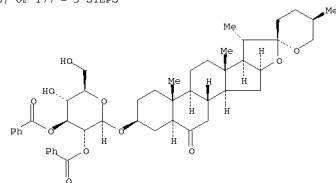
RX(69) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(75) OF 177 - 3 STEPS



RX(75) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective  
 CON: STEP(1) 3 hours, 50 deg C, pH 3 - 4  
 STEP(2.1) 1 hour, room temperature  
 STEP(3) 2.5 hours, reflux

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

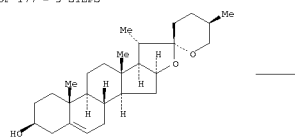
RX(70) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(71) OF 177 - REACTION DIAGRAM NOT AVAILABLE

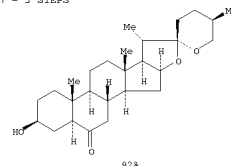
RX(72) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(73) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(74) OF 177 - 3 STEPS



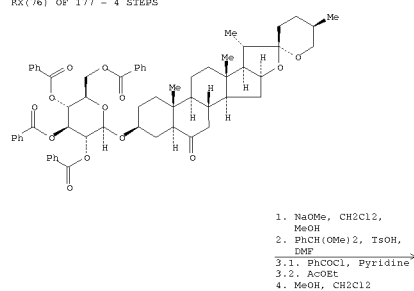
RX(74) OF 177 - 3 STEPS



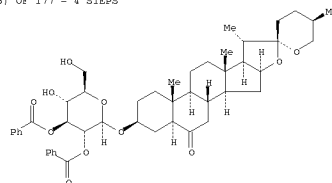
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(76) OF 177 - 4 STEPS



RX(76) OF 177 - 4 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective  
 CON: STEP(1.1) 2 hours, room temperature; pH 7  
 STEP(2) 3 hours, 50 deg C, pH 3 - 4  
 STEP(3.1) 1 hour, room temperature  
 STEP(4) 2.5 hours, reflux

RX(77) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(78) OF 177 - REACTION DIAGRAM NOT AVAILABLE

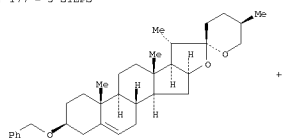
RX(79) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(80) OF 177 - REACTION DIAGRAM NOT AVAILABLE

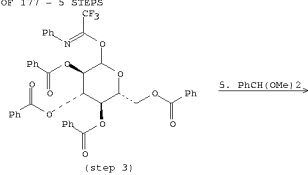
RX(81) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

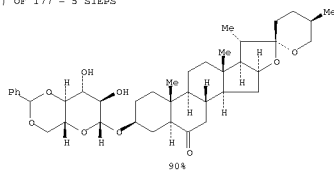
RX(82) OF 177 - 5 STEPS



RX(82) OF 177 - 5 STEPS



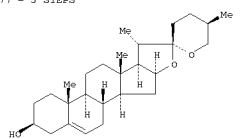
RX(82) OF 177 - 5 STEPS



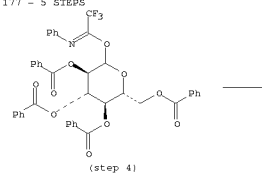
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, mol. sieves used, 4) stereoselective, 5) stereoselective  
 CON: STEP(1.1) 15 hours, room temperature  
 STEP(1.2) overnight, room temperature; pH 7  
 STEP(1.4) 5 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) room temperature  
 STEP(4.1) 2 hours, room temperature; pH 7  
 STEP(5) 3 hours, 50 deg C, pH 3 - 4

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

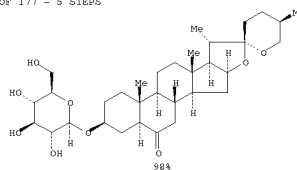
RX(83) OF 177 - 5 STEPS



RX(83) OF 177 - 5 STEPS



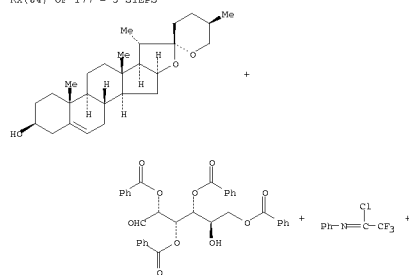
RX(83) OF 177 - 5 STEPS



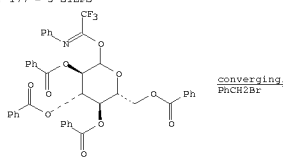
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, mol. sieves used, 5) stereoselective  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature  
 STEP(4) room temperature  
 STEP(5.1) 2 hours, room temperature; pH 7

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

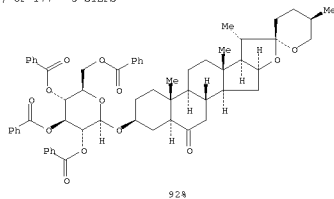
RX(84) OF 177 - 5 STEPS



RX(84) OF 177 - 5 STEPS

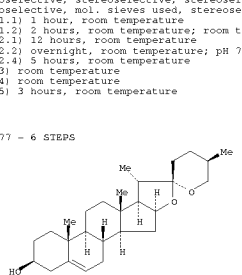


RX(84) OF 177 - 5 STEPS

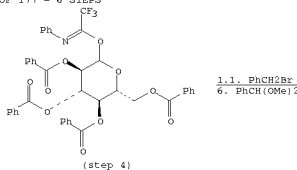


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

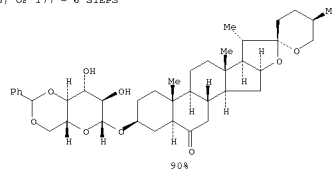
RX(85) OF 177 - 6 STEPS



RX(85) OF 177 - 6 STEPS



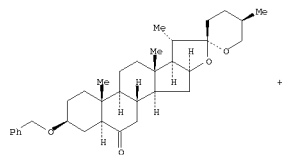
RX(85) OF 177 - 6 STEPS



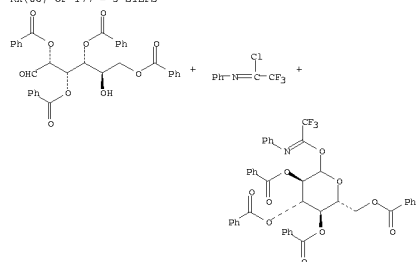
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, mol. sieves used, 5) stereoselective, 6) stereoselective  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature  
 STEP(4) room temperature  
 STEP(5.1) 2 hours, room temperature; pH 7  
 STEP(6) 3 hours, 50 deg C, pH 3 - 4

RX(86) OF 177 - 5 STEPS



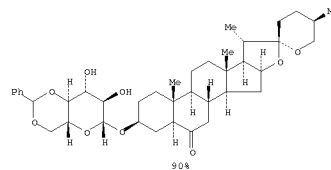
RX(86) OF 177 - 5 STEPS



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

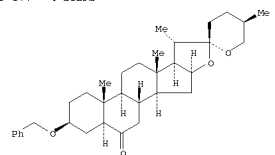
RX(86) OF 177 - 5 STEPS

converging  
 PhCH(OMe)2



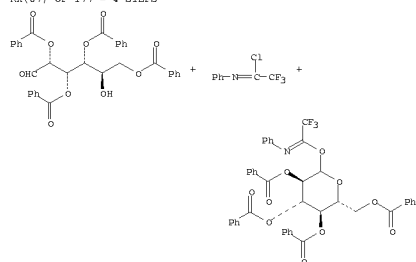
NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective, stereoselective  
 CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, 50 deg C, pH 3 - 4  
 STEP(5) 3 hours, room temperature

RX(87) OF 177 - 4 STEPS

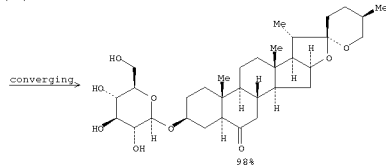


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(87) OF 177 - 4 STEPS



RX(87) OF 177 - 4 STEPS

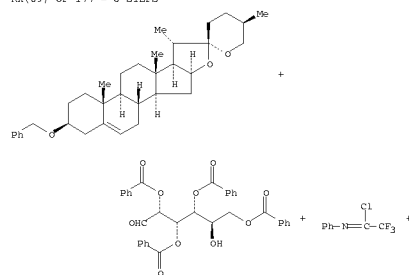


NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective  
 CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, room temperature

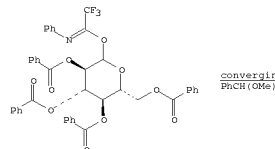
RX(88) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

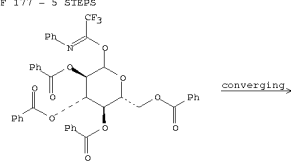
RX(89) OF 177 - 6 STEPS



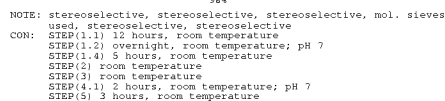
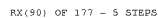
RX(89) OF 177 - 6 STEPS



BX(90) OF 177 = 5 STEPS



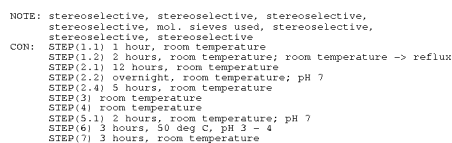
RX(90) OF 177 - 5 STEPS



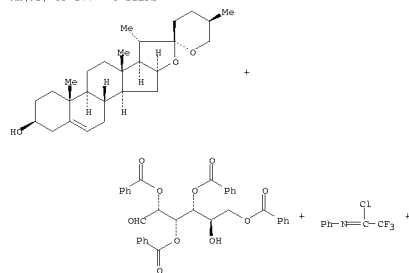
RX(91) OF 177 - REACTION DIAGRAM NOT AVAILABLE

16 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

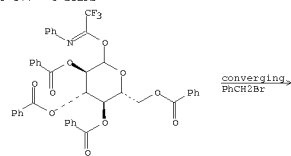
NOTE: stereoselective, stereoselective, stereoselective.



RX(93) OF 177 - 6 STEPS



RX(93) OF 177 - 6 STEPS

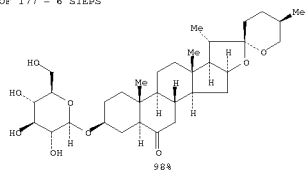


90%



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(93) OF 177 - 6 STEPS

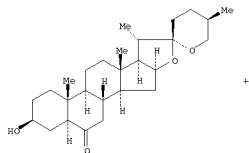


NOTE: stereoselective, stereoselective, stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective

CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature  
 STEP(4) room temperature  
 STEP(5.1) 2 hours, room temperature; pH 7  
 STEP(6) 3 hours, room temperature

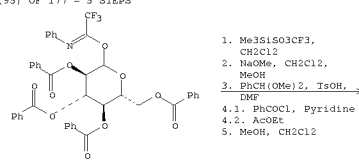
RX(94) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(95) OF 177 - 5 STEPS



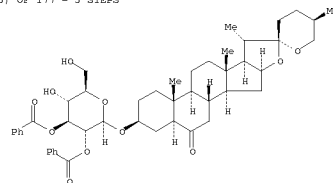
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(95) OF 177 - 5 STEPS



1. Me3SiSO3CF3,  
 CH2Cl2  
 2. NaOMe, CH2Cl2,  
 MeOH  
 3. PhCH(OMe)2, TsOH,  
 DMF  
 4.1. PhCOCl, Pyridine  
 4.2. AcOEt  
 5. MeOH, CH2Cl2

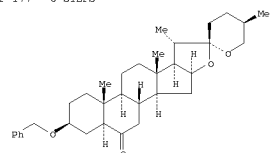
RX(95) OF 177 - 5 STEPS



NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

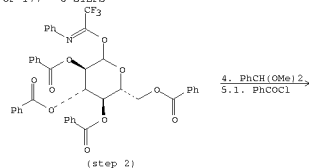
CON: STEP(1) room temperature  
 STEP(2.1) 2 hours, room temperature; pH 7  
 STEP(3) 3 hours, 50 deg C, pH 3 - 4  
 STEP(4.1) 1 hour, room temperature  
 STEP(5) 2.5 hours, reflux

RX(96) OF 177 - 6 STEPS

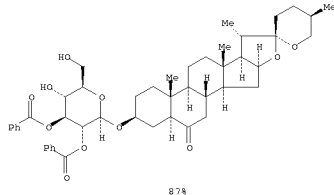


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(96) OF 177 - 6 STEPS



RX(96) OF 177 - 6 STEPS

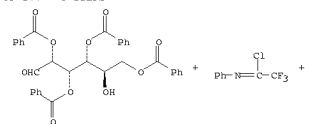


NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, 50 deg C, pH 3 - 4  
 STEP(5.1) 1 hour, room temperature  
 STEP(6) 2.5 hours, reflux

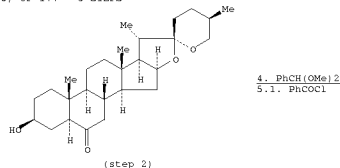
RX(97) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(98) OF 177 - 6 STEPS

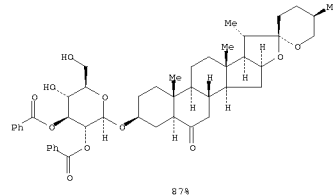


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(98) OF 177 - 6 STEPS



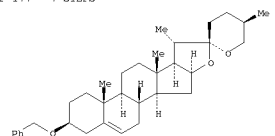
RX(98) OF 177 - 6 STEPS



NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

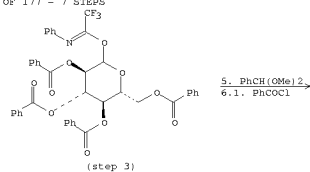
CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, 50 deg C, pH 3 - 4  
 STEP(5.1) 1 hour, room temperature  
 STEP(6) 2.5 hours, reflux

RX(99) OF 177 - 7 STEPS

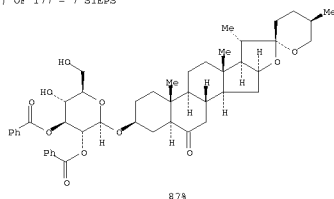


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(99) OF 177 - 7 STEPS



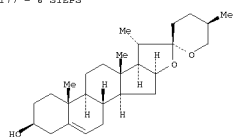
RX(99) OF 177 - 7 STEPS



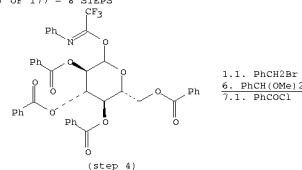
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, mol. sieves used, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective  
 CON: STEP(1.1) 15 hours, room temperature  
 STEP(1.2) overnight, room temperature; pH 7  
 STEP(1.4) 5 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) room temperature  
 STEP(4.1) 2 hours, room temperature; pH 7  
 STEP(5) 3 hours, 50 deg C, pH 3 - 4  
 STEP(6.1) 1 hour, room temperature  
 STEP(7) 2.5 hours, reflux

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

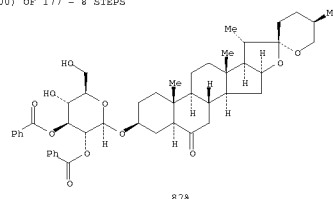
RX(100) OF 177 - 8 STEPS



RX(100) OF 177 - 8 STEPS



RX(100) OF 177 - 8 STEPS

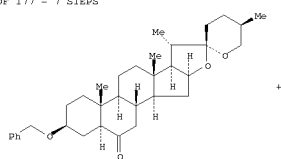


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

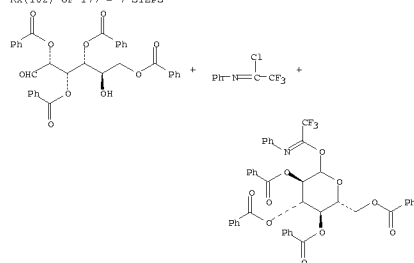
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, mol. sieves used, 5) stereoselective, 6) stereoselective, 7) stereoselective, 8) stereoselective  
 CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 15 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature  
 STEP(4) room temperature  
 STEP(5.1) 2 hours, room temperature; pH 7  
 STEP(6) 3 hours, 50 deg C, pH 3 - 4  
 STEP(7.1) 1 hour, room temperature  
 STEP(8) 2.5 hours, reflux

RX(101) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(102) OF 177 - 7 STEPS



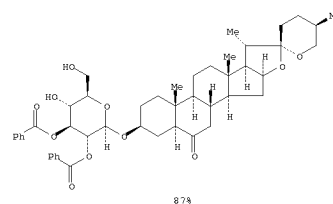
RX(102) OF 177 - 7 STEPS



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(102) OF 177 - 7 STEPS

converging  
 PhCH(OMe)2,  
 PhCOCl

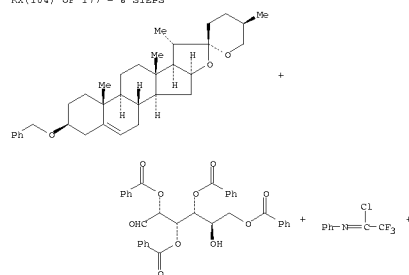


NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective, stereoselective, stereoselective, stereoselective

CON: STEP(1) room temperature  
 STEP(2) room temperature  
 STEP(3.1) 2 hours, room temperature; pH 7  
 STEP(4) 3 hours, 50 deg C, pH 3 - 4  
 STEP(5.1) 1 hour, room temperature  
 STEP(6) 2.5 hours, reflux  
 STEP(7) 3 hours, room temperature

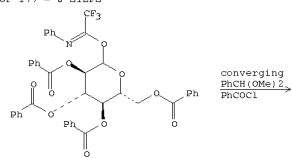
RX(103) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(104) OF 177 - 8 STEPS

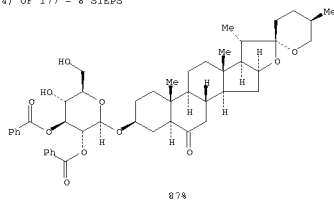


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(104) OF 177 - 8 STEPS



RX(104) OF 177 - 8 STEPS

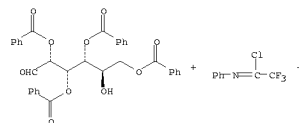


NOTE: stereoselective, stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective, stereoselective, stereoselective, stereoselective  
 CON: STEP(1.1) 12 hours, room temperature  
 STEP(1.2) overnight, room temperature; pH 7  
 STEP(1.4) 5 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) room temperature  
 STEP(4.1) 2 hours, room temperature; pH 7  
 STEP(5) 3 hours, 50 deg C, pH 3 - 4  
 STEP(6.1) 1 hour, room temperature  
 STEP(7) 2.5 hours, reflux  
 STEP(8) 3 hours, room temperature

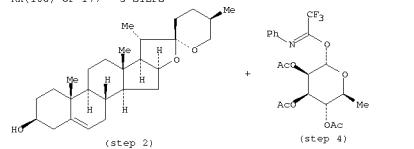
RX(105) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(106) OF 177 - 5 STEPS

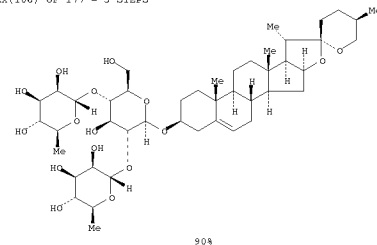


RX(106) OF 177 - 5 STEPS



1. K<sub>2</sub>CO<sub>3</sub>, Me<sub>2</sub>CO  
 2. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>  
 3.1. NaOMe, MeOH  
 3.2. Pivaloyl chloride, Pyridine  
 4. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>  
 5. NaOH, MeOH, Water, THF

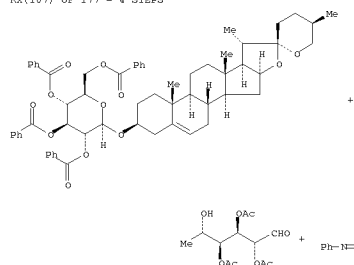
RX(106) OF 177 - 5 STEPS



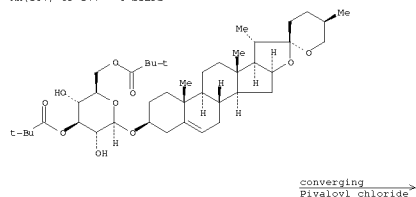
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective, mol. sieves used, 5) stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3.1) room temperature  
 STEP(3.2) 0 deg C  
 STEP(4) room temperature  
 STEP(5) overnight, 40 deg C

RX(107) OF 177 - 4 STEPS

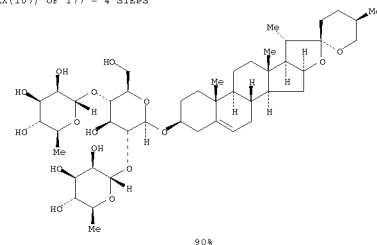


RX(107) OF 177 - 4 STEPS



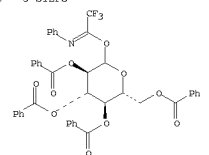
L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(107) OF 177 - 4 STEPS

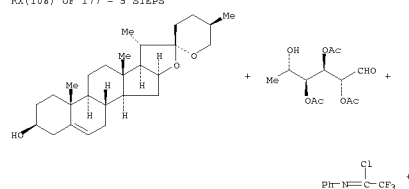


NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective  
 CON: STEP(1) 3 hours, room temperature  
 STEP(2) room temperature  
 STEP(3) overnight, 40 deg C  
 STEP(4.1) room temperature  
 STEP(4.2) 0 deg C

RX(108) OF 177 - 5 STEPS

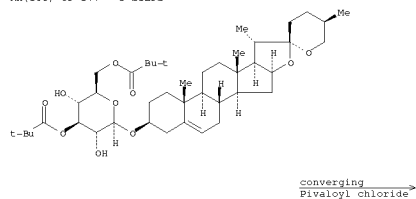


RX(108) OF 177 - 5 STEPS

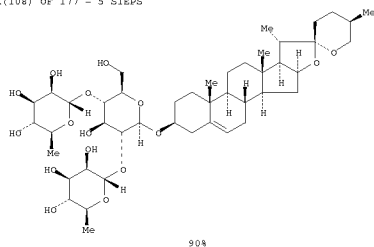


L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(108) OF 177 - 5 STEPS



RX(108) OF 177 - 5 STEPS



904

NOTE: stereoselective, stereoselective, mol. sieves used,  
stereoselective, stereoselective, mol. sieves used,  
stereoselective

CON: STEP(1) 3 hours, room temperature  
STEP(2) room temperature  
STEP(3) overnight, 40 deg C  
STEP(4) room temperature  
STEP(5.1) room temperature  
STEP(5.2) 0 deg C

RX(109) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(110) OF 177 - REACTION DIAGRAM NOT AVAILABLE

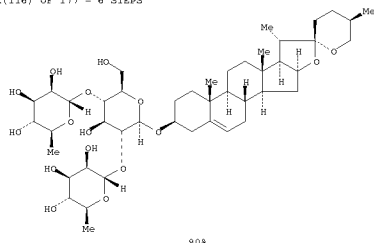
RX(111) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(112) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(113) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(116) OF 177 - 6 STEPS



904

NOTE: stereoselective, stereoselective, mol. sieves used,  
stereoselective, stereoselective, mol. sieves used,  
stereoselective, stereoselective

CON: STEP(1) 3 hours, room temperature  
STEP(2) room temperature  
STEP(3.1) room temperature  
STEP(3.2) 0 deg C  
STEP(4) room temperature  
STEP(5) overnight, 40 deg C  
STEP(6) 3 hours, room temperature

RX(117) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(118) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(119) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(120) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(121) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(122) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(123) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(124) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(125) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(126) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(127) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(128) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(129) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(130) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(131) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(132) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(133) OF 177 - REACTION DIAGRAM NOT AVAILABLE

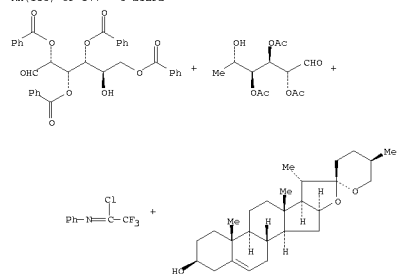
RX(134) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

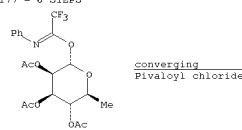
RX(114) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(115) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(116) OF 177 - 6 STEPS



RX(116) OF 177 - 6 STEPS



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(135) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(136) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(137) OF 177 - REACTION DIAGRAM NOT AVAILABLE

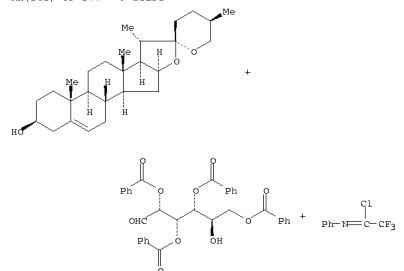
RX(138) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(139) OF 177 - REACTION DIAGRAM NOT AVAILABLE

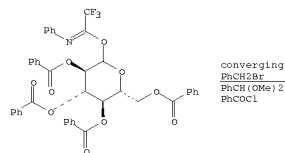
RX(140) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(141) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(142) OF 177 - 9 STEPS

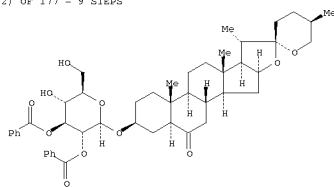


RX(142) OF 177 - 9 STEPS



L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(142) OF 177 - 9 STEPS



874

NOTE: stereoselective, stereoselective, stereoselective, stereoselective, mol. sieves used, stereoselective, stereoselective, stereoselective, stereoselective, stereoselective

CON: STEP(1.1) 1 hour, room temperature  
 STEP(1.2) 2 hours, room temperature; room temperature -> reflux  
 STEP(2.1) 12 hours, room temperature  
 STEP(2.2) overnight, room temperature; pH 7  
 STEP(2.4) 5 hours, room temperature  
 STEP(3) room temperature  
 STEP(4) room temperature  
 STEP(5.1) 2 hours, room temperature; pH 7  
 STEP(6) 3 hours, 50 deg C, pH 3 - 4  
 STEP(7.1) 1 hour, room temperature  
 STEP(8) 2.5 hours, reflux  
 STEP(9) 3 hours, room temperature

RX(143) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(144) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(145) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(146) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(147) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(148) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(149) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(150) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(151) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(152) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(153) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(154) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(155) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(156) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(157) OF 177 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 137:353212 CASREACT

TI An Assisted Solvolysis of 23-Spirostan-21-yl Bromides and Tosylates. A New

AU Rearrangement of Spirostanones to the Bisfuran Systems

ANulewicz-Ostrowska, Romana; Jastrzebska, Izabela; Morzycki, Jacek W.;

Wojcik, Jacek

CS Department of Chemistry, University of Warsaw, Warsaw, 02-093, Pol.

SO Journal of Organic Chemistry (2002), 67(20), 6916-6924

CODEN: JOCEAH; ISSN: 0022-3263

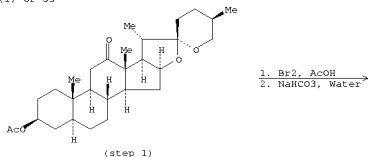
PB American Chemical Society

DT Journal

LA English

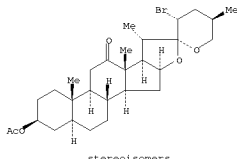
AB Steroidal sapogenins bearing a good leaving group at C23 undergo a completely stereospecific rearrangement under a variety of conditions via a mechanism involving neighboring-group participation by the acetal oxygen atom in the departure of the nucleofuge from C23. The reactions of equatorial (23R)-23-bromo- or (23S)-23-tosyloxy-spirostanones with either the  $\alpha$  (25R) or  $\beta$  (25S) oriented 25-Me group lead to the bisfuran products with inversion of configuration at C23. The reactions of the starting compds. with axial substituents (23R) at C23 require drastic conditions and result in the formation of the corresponding olefin accompanied by the rearranged product (in the case of the 25S isomer only).

RX(1) OF 53



(step 1)

RX(1) OF 53



stereoisomers

814

NOTE: stereoselective

L6 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(158) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(159) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(160) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(161) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(162) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(163) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(164) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(165) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(166) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(167) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(168) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(169) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(170) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(171) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(172) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(173) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(174) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(175) OF 177 - REACTION DIAGRAM NOT AVAILABLE

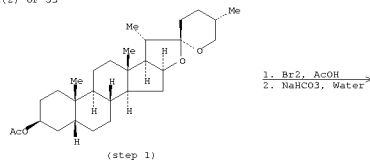
RX(176) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RX(177) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

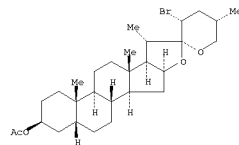
L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(2) OF 53



(step 1)

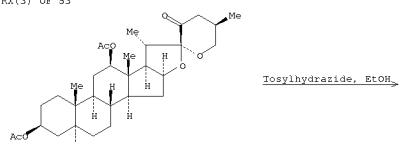
RX(2) OF 53



784

NOTE: stereoselective

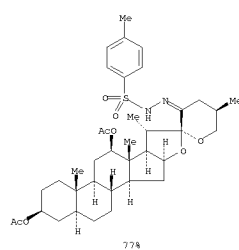
RX(3) OF 53



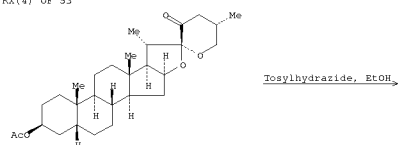
Tosylhydrazide, EtOH

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

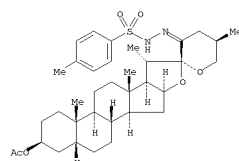
RX(3) OF 53



RX(4) OF 53

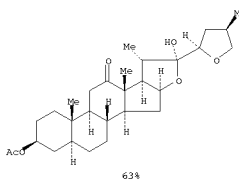


RX(4) OF 53

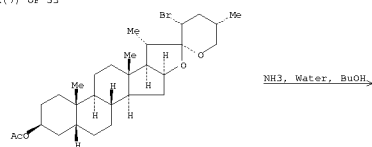


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

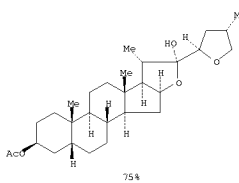
RX(6) OF 53



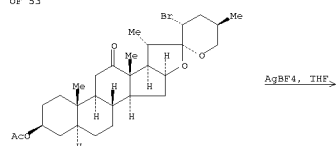
RX(7) OF 53



RX(7) OF 53

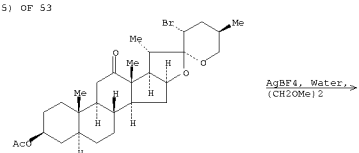


RX(8) OF 53

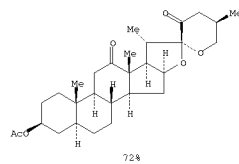


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

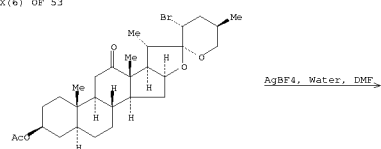
RX(5) OF 53



RX(5) OF 53

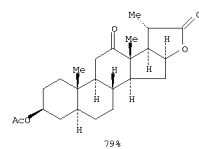


RX(6) OF 53

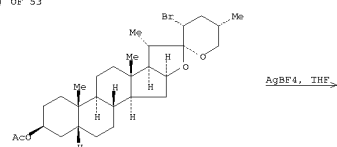


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

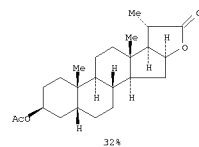
RX(8) OF 53



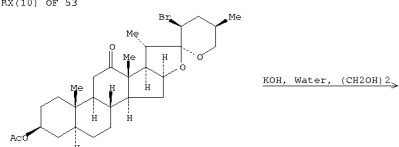
RX(9) OF 53



RX(9) OF 53

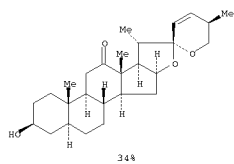


RX(10) OF 53

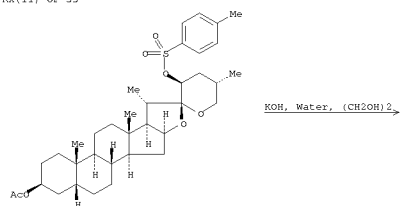


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

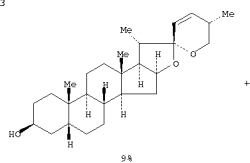
RX(10) OF 53



RX(11) OF 53

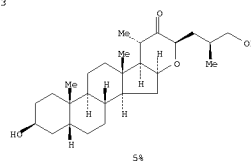


RX(11) OF 53

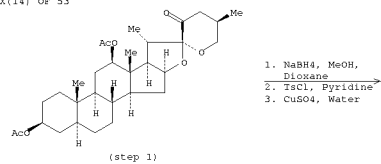


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

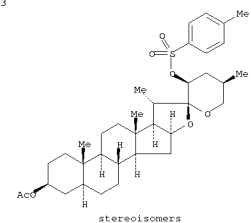
RX(11) OF 53



RX(14) OF 53



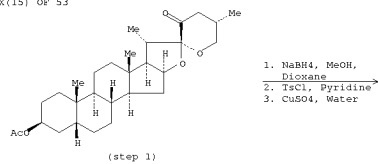
RX(14) OF 53



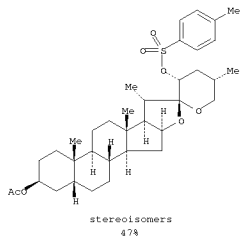
NOTE: stereoselective

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(15) OF 53

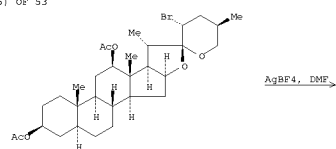


RX(15) OF 53



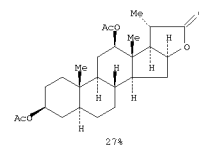
NOTE: stereoselective

RX(16) OF 53

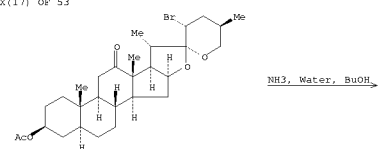


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

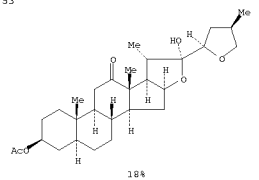
RX(16) OF 53



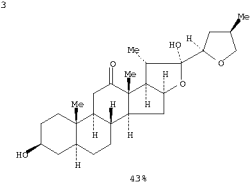
RX(17) OF 53



RX(17) OF 53

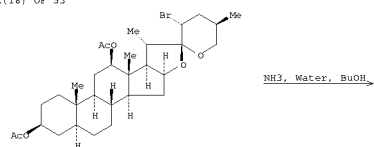


RX(17) OF 53

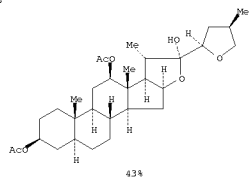


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

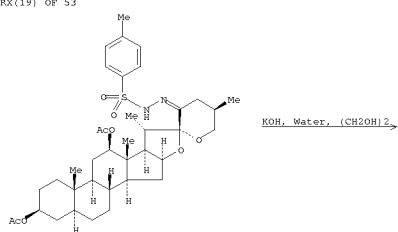
RX(18) OF 53



RX(18) OF 53

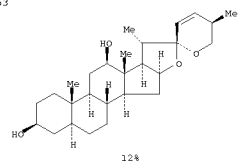


RX(19) OF 53

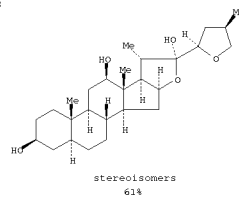


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

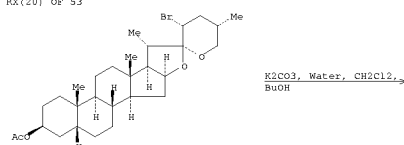
RX(19) OF 53



RX(19) OF 53

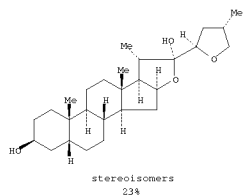


RX(20) OF 53



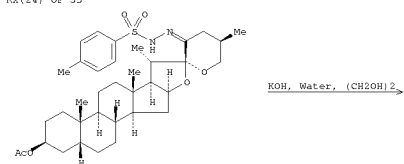
L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(20) OF 53

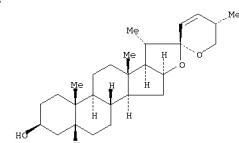


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(24) OF 53

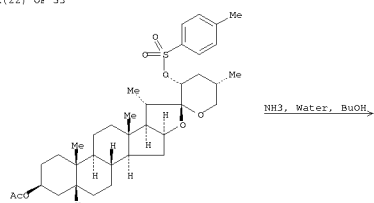


RX(24) OF 53

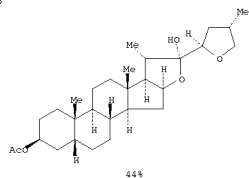


NOTE: other product(s) also detected

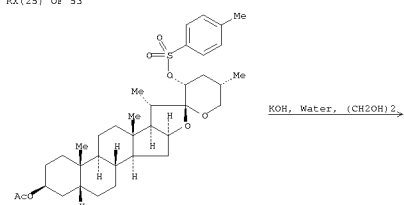
RX(22) OF 53



RX(22) OF 53



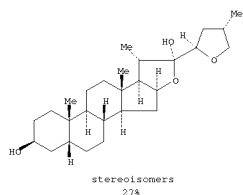
RX(25) OF 53



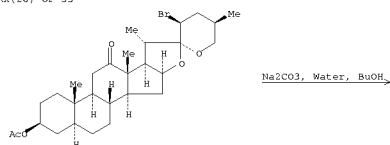


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

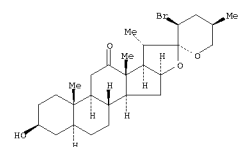
RX(25) OF 53



RX(26) OF 53

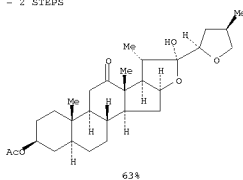


RX(26) OF 53



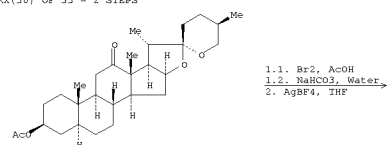
L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(29) OF 53 - 2 STEPS

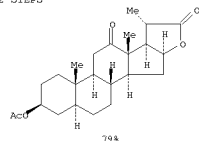


NOTE: 1) stereoselective

RX(30) OF 53 - 2 STEPS



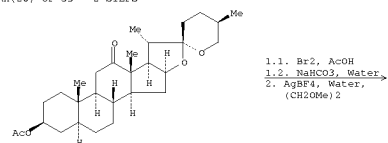
RX(30) OF 53 - 2 STEPS



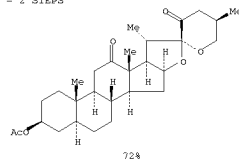
NOTE: 1) stereoselective

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(28) OF 53 - 2 STEPS

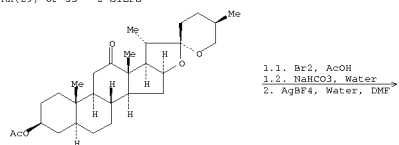


RX(28) OF 53 - 2 STEPS



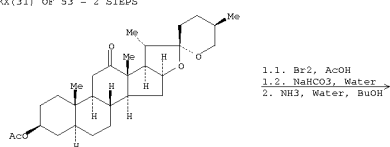
NOTE: 1) stereoselective

RX(29) OF 53 - 2 STEPS

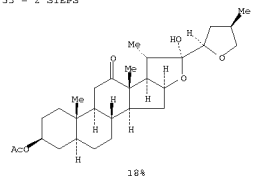


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

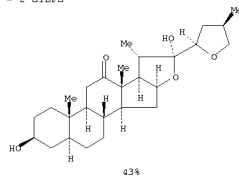
RX(31) OF 53 - 2 STEPS



RX(31) OF 53 - 2 STEPS



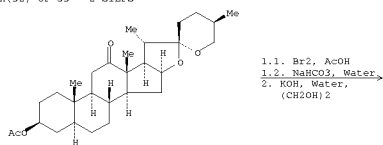
RX(31) OF 53 - 2 STEPS



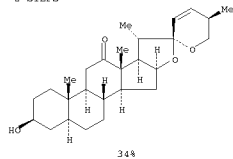
NOTE: 1) stereoselective

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(32) OF 53 - 2 STEPS

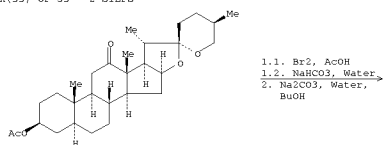


RX(32) OF 53 - 2 STEPS



NOTE: 1) stereoselective

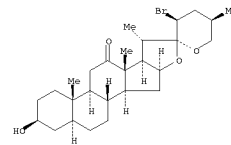
RX(33) OF 53 - 2 STEPS



RX(33) OF 53 - 2 STEPS

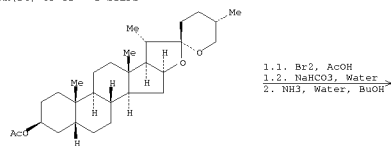
L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(33) OF 53 - 2 STEPS

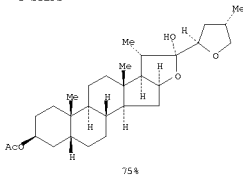


NOTE: 1) stereoselective

RX(34) OF 53 - 2 STEPS



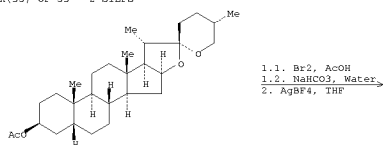
RX(34) OF 53 - 2 STEPS



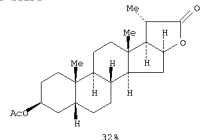
NOTE: 1) stereoselective

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(35) OF 53 - 2 STEPS

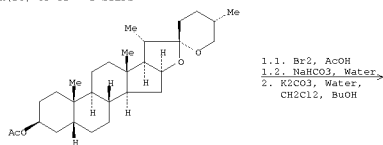


RX(35) OF 53 - 2 STEPS



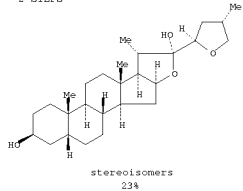
NOTE: 1) stereoselective

RX(36) OF 53 - 2 STEPS



L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(36) OF 53 - 2 STEPS

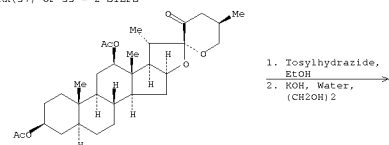


stereoisomers

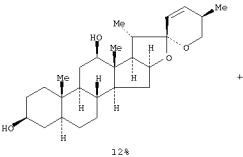
23%

NOTE: 1) stereoselective

RX(37) OF 53 - 2 STEPS

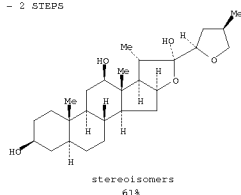


RX(37) OF 53 - 2 STEPS

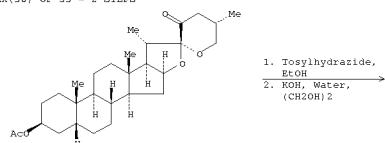


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

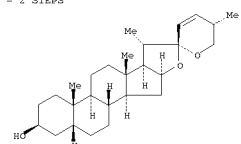
RX(37) OF 53 - 2 STEPS



RX(38) OF 53 - 2 STEPS



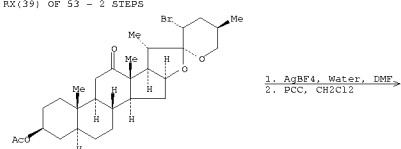
RX(38) OF 53 - 2 STEPS



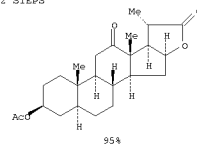
NOTE: 2) other product(s) also detected

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

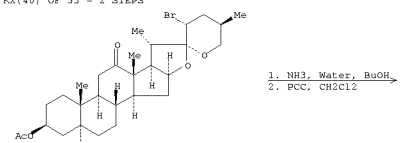
RX(39) OF 53 - 2 STEPS



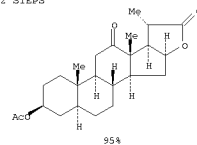
RX(39) OF 53 - 2 STEPS



RX(40) OF 53 - 2 STEPS

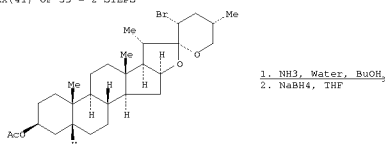


RX(40) OF 53 - 2 STEPS

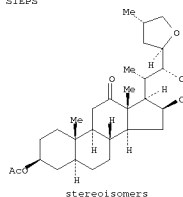


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

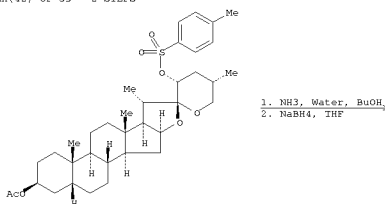
RX(41) OF 53 - 2 STEPS



RX(41) OF 53 - 2 STEPS

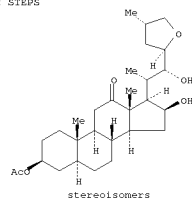


RX(42) OF 53 - 2 STEPS

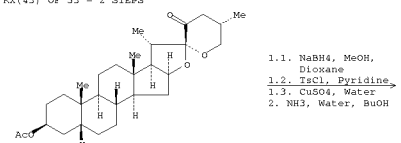


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

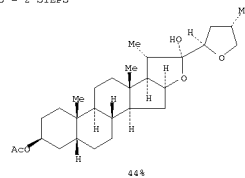
RX(42) OF 53 - 2 STEPS



RX(43) OF 53 - 2 STEPS



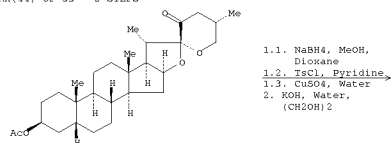
RX(43) OF 53 - 2 STEPS



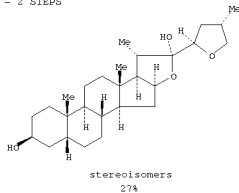
NOTE: 1) stereoselective

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(44) OF 53 - 2 STEPS

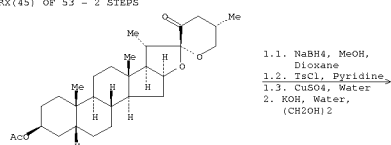


RX(44) OF 53 - 2 STEPS



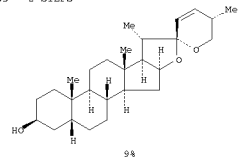
NOTE: 1) stereoselective

RX(45) OF 53 - 2 STEPS

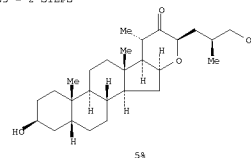


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(45) OF 53 - 2 STEPS

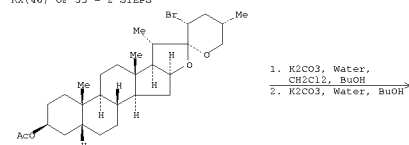


RX(45) OF 53 - 2 STEPS



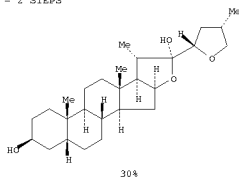
NOTE: 1) stereoselective

RX(46) OF 53 - 2 STEPS

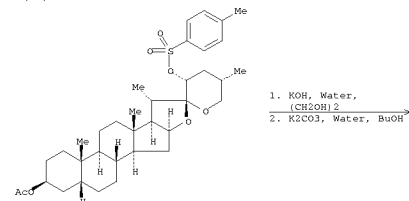


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

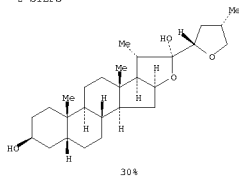
RX(46) OF 53 - 2 STEPS



RX(47) OF 53 - 2 STEPS

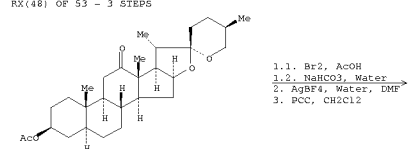


RX(47) OF 53 - 2 STEPS

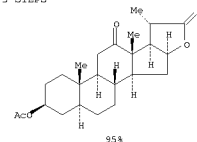


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(48) OF 53 - 3 STEPS

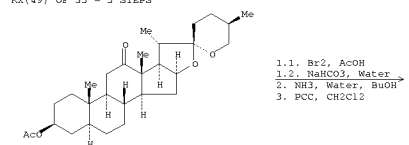


RX(48) OF 53 - 3 STEPS

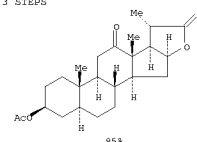


NOTE: 1) stereoselective

RX(49) OF 53 - 3 STEPS



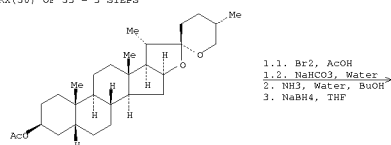
RX(49) OF 53 - 3 STEPS



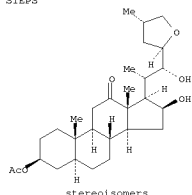
NOTE: 1) stereoselective

L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(50) OF 53 - 3 STEPS

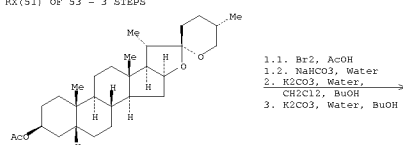


RX(50) OF 53 - 3 STEPS



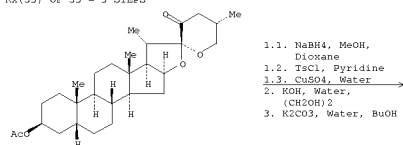
NOTE: 1) stereoselective

RX(51) OF 53 - 3 STEPS

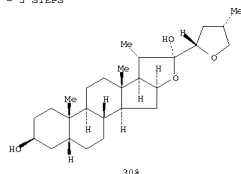


L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(53) OF 53 - 3 STEPS



RX(53) OF 53 - 3 STEPS

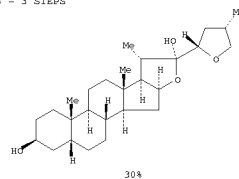


NOTE: 1) stereoselective

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

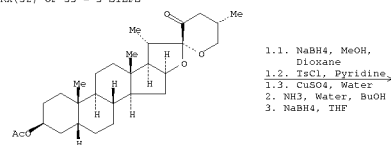
L6 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(51) OF 53 - 3 STEPS

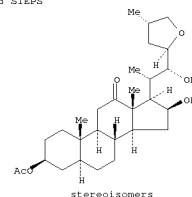


NOTE: 1) stereoselective

RX(52) OF 53 - 3 STEPS



RX(52) OF 53 - 3 STEPS



NOTE: 1) stereoselective

L6 ANSWER 5 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 137:325559 CASREACT

TI Optimization of the Wolff-Kishner reaction for the obtainment of tigogenin from hecogenin

AU Moreno, Mayra Reyes; Garcia, Jose Alberto Ruiz; Haza, Ulises Jauregui; Garcia, Janet Lora; Agüero, Juan Agüero

CS Centro de Química Farmacéutica, Ciudad de La Habana, Cuba

SO Revista CENIC, Ciencias Químicas (2001), 32(1), 51-54

CODEN: RCCQER; ISSN: 1015-8553

PB Centro Nacional de Investigaciones Científicas

DT Journal

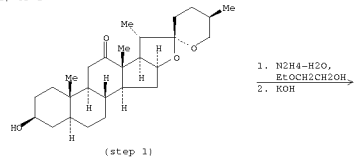
LA Spanish

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

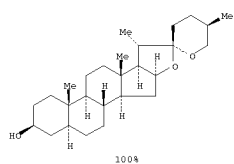
AB The basic raw material for steroids synthesis is hecogenin (I: R<sub>1</sub>R<sub>2</sub> = O), which is obtained from henequen juice, a byproduct from a natural source like Agave fourcroydes, available in Cuba. This fact lets us develop a procedure for oxymetholone (II) synthesis. Oxymetholone is an anabolic steroid used in the treatment of aplastic anemia and other blood diseases. The first step of oxymetholone synthesis is the obtainment of tigogenin (I; R<sub>1</sub> = R<sub>2</sub> = H) by Wolff-Kishner reduction, Huang-Minlon modification, employing ethylene glycol as solvent at 200°C. Due to the high reaction temperature, non-conventional reactors have to be used in the industry in this step. The goal of this work is consequently to determine the conditions which allow the optimization of the Wolff-Kishner reduction reaction for the transformation of hecogenin to tigogenin. This paper deals with the optimization of the Wolff-Kishner reaction using 2-ethoxyethanol in order to guarantee the use of conventional reactors for the process in the industry. For this purpose an expl. 23 factorial central composed design was used. It was demonstrated that the transformation to tigogenin from hecogenin quant. of 100% when 0.4 mL of hydrazine hydrate, 0.625 g of potassium hydroxide and 6.25 mL of 2-ethoxyethanol, for 1 g of hecogenin was employed. On the other hand, although 2-ethoxyethanol is equally toxic as ethylene glycol, it is cheaper and it guarantees an addnl. savings in the cost of raw material.

RX(1) OF 1



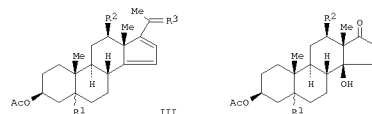
L6 ANSWER 5 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(1) OF 1

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

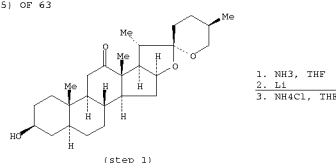
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 137:12513 CASREACT  
 II Oxidative Fragmentation of Pregna-14,16-dien-20-ones to  
 14 $\beta$ -Hydroxyandrost-15-en-17-ones  
 AU Fell, Jennifer D.; Heathcock, Clayton H.  
 CS Center for New Directions in Organic Synthesis, Department of Chemistry,  
 University of California, Berkeley, CA, 94720, USA  
 SO Journal of Organic Chemistry (2002), 67(14), 4742-4746  
 COPEN: JOCHEM; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 GI



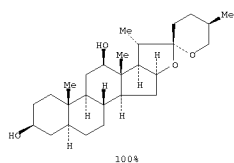
AB Two methods have been developed for efficient conversion of  
 pre-gna-14,16-dien-20-ones into 14 $\beta$ -hydroxyandrost-15-en-17-ones. One  
 procedure consists of treatment of the ring-D dienone successively with  
 sodium borohydride and singlet oxygen. The reaction is illustrated by the  
 conversion of pre-gna-14,16-dien-20-one I into 14 $\beta$ -hydroxyandrost-15-  
 en-17-one II, via the corresponding allylic alc. III (R1 =  $\alpha$ -H, R2 =  
 OAc, R3 =  $\beta$ -OH,  $\alpha$ -H). Although this two-step procedure is  
 simple, it provides II in relatively low yield, accompanied by a smaller  
 amount of the isomeric 14 $\alpha$ -hydroxyandrost-15-en-17-one. An  
 alternative one-step conversion is achieved by treatment of I with a  
 peroxycarboxylic acid in the presence of a strong protic acid. This process is  
 illustrated by the two-step conversion of I into hydroxy ketone IV (R1 =  
 $\alpha$ -H, R2 = OAc) in 51% overall yield and by the analogous conversion  
 of dienone III (R1 =  $\beta$ -H, R2 = H, R3 = O) into hydroxy ketone IV (R1 =  
 $\beta$ -H, R2 = H) in 61% overall yield.

RX(15) OF 63



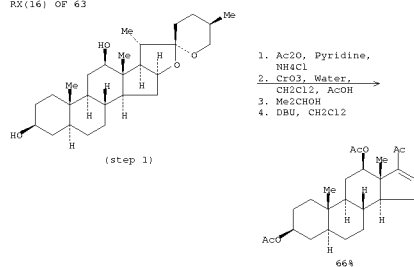
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(15) OF 63

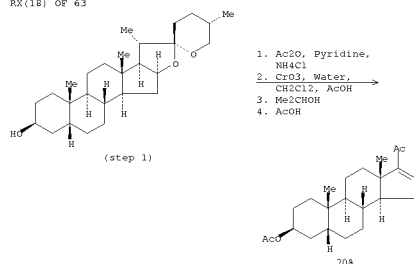


NOTE: stereoselective

RX(16) OF 63

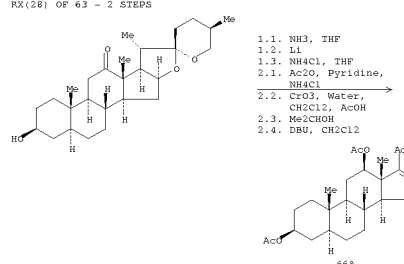


RX(18) OF 63



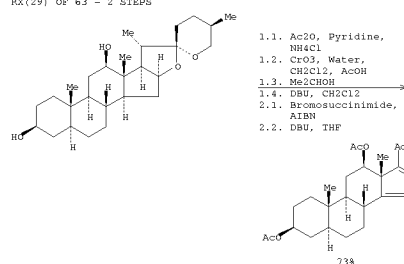
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(28) OF 63 - 2 STEPS



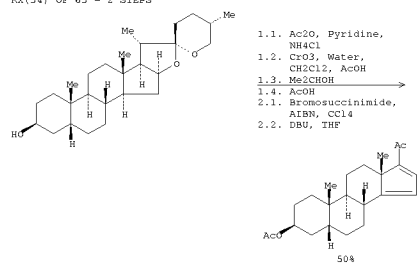
NOTE: 1) stereoselective

RX(29) OF 63 - 2 STEPS

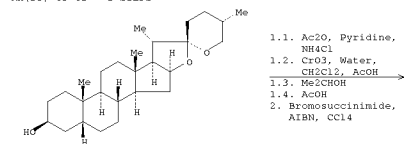


L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(34) OF 63 - 2 STEPS

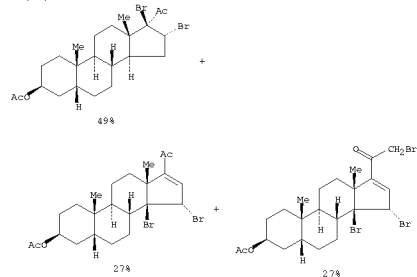


RX(35) OF 63 - 2 STEPS



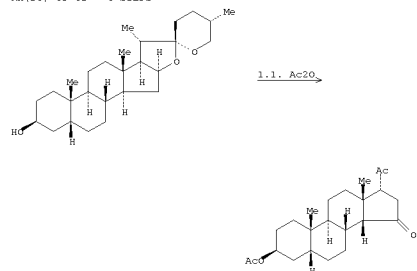
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(35) OF 63 - 2 STEPS



NOTE: 2) stereoselective, regioselective

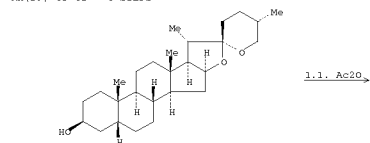
RX(38) OF 63 - 4 STEPS



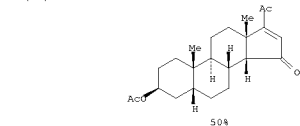
NOTE: 3) stereoselective, regioselective, 34% overall yield, 4) stereoselective

L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(39) OF 63 - 4 STEPS

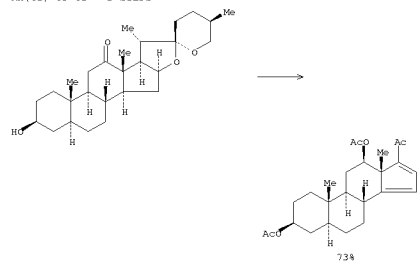


RX(39) OF 63 - 4 STEPS



NOTE: 3) stereoselective

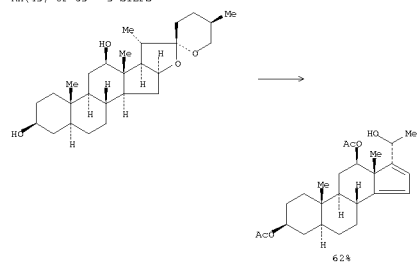
RX(42) OF 63 - 3 STEPS



NOTE: 1) stereoselective

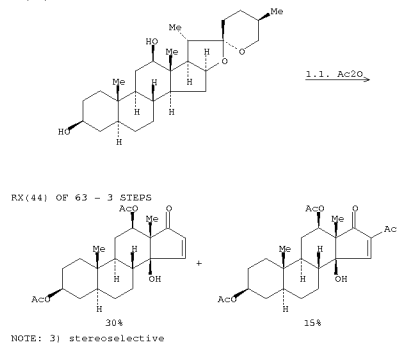
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(43) OF 63 - 3 STEPS



NOTE: 3) stereoselective

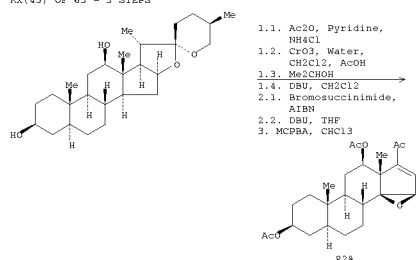
RX(44) OF 63 - 3 STEPS



NOTE: 3) stereoselective

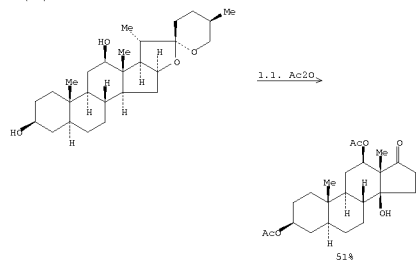
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(45) OF 63 - 3 STEPS



NOTE: 3) stereoselective

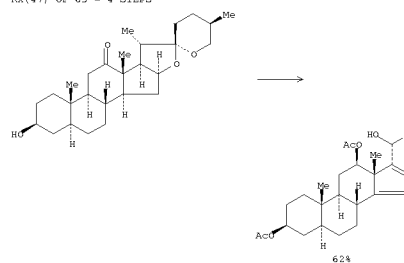
RX(46) OF 63 - 3 STEPS



NOTE: 3) stereoselective, regioselective

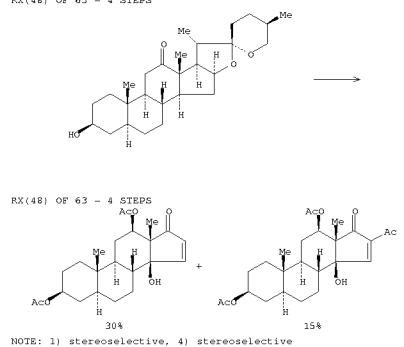
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(47) OF 63 - 4 STEPS



NOTE: 1) stereoselective, 4) stereoselective

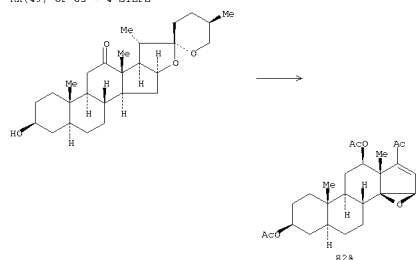
RX(48) OF 63 - 4 STEPS



NOTE: 1) stereoselective, 4) stereoselective

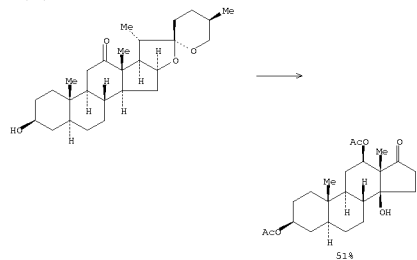
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(49) OF 63 - 4 STEPS



NOTE: 1) stereoselective, 4) stereoselective

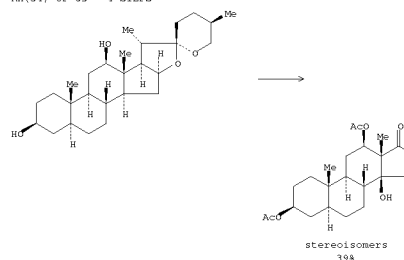
RX(50) OF 63 - 4 STEPS



NOTE: 1) stereoselective, 4) stereoselective, regioselective

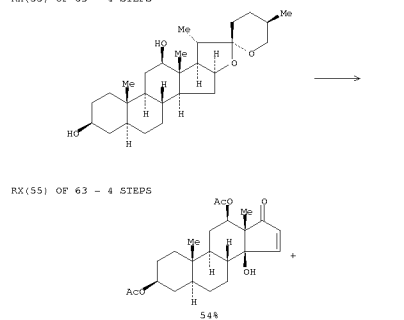
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(54) OF 63 - 4 STEPS



NOTE: 3) stereoselective, 4) stereoselective, regioselective

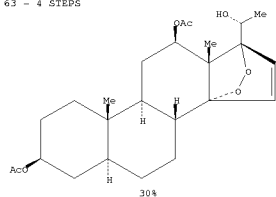
RX(55) OF 63 - 4 STEPS





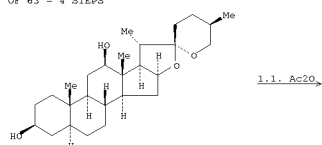
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(55) OF 63 - 4 STEPS

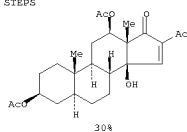


NOTE: 3) stereoselective, 4) stereoselective, regioselective, optimized on reaction conditions

RX(56) OF 63 - 4 STEPS



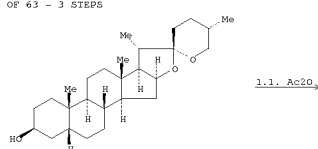
RX(56) OF 63 - 4 STEPS



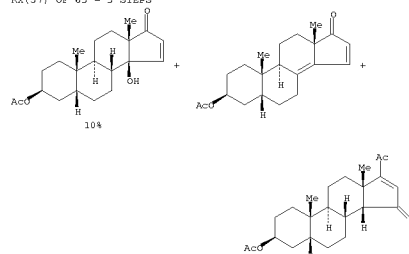
NOTE: 3) stereoselective, 4) regioselective

L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(57) OF 63 - 3 STEPS



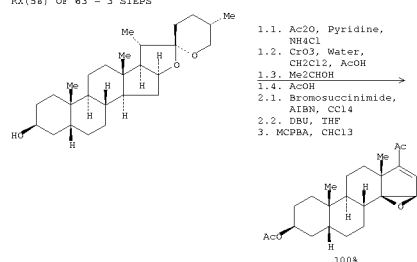
RX(57) OF 63 - 3 STEPS



NOTE: 3) stereoselective, regioselective, 34% overall yield

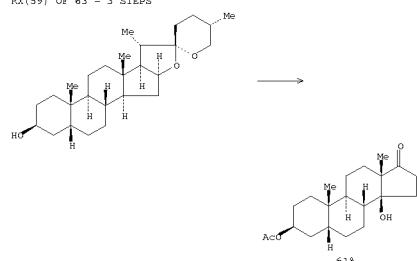
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(58) OF 63 - 3 STEPS



NOTE: 3) stereoselective

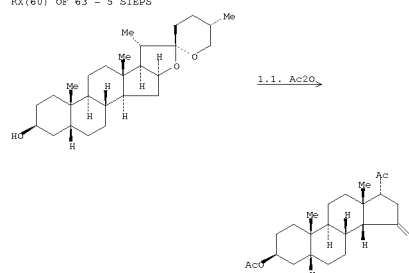
RX(59) OF 63 - 3 STEPS



NOTE: 3) stereoselective, regioselective

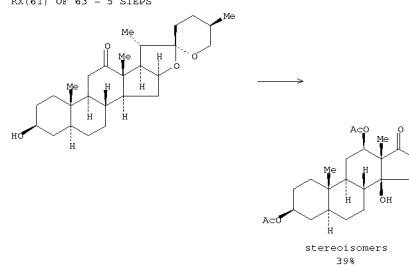
L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(60) OF 63 - 5 STEPS



NOTE: 3) stereoselective, 5) stereoselective

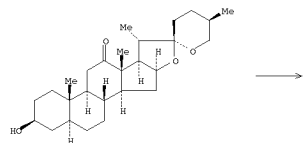
RX(61) OF 63 - 5 STEPS



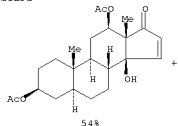
NOTE: 1) stereoselective, 4) stereoselective, 5) stereoselective, regioselective

L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

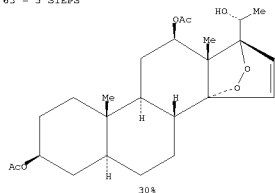
RX(62) OF 63 - 5 STEPS



RX(62) OF 63 - 5 STEPS



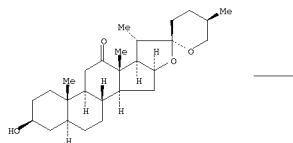
RX(62) OF 63 - 5 STEPS



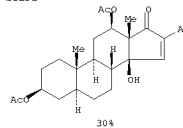
NOTE: 1) stereoselective, 4) stereoselective, 5) stereoselective, regioselective, optimized on reaction conditions

L6 ANSWER 6 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(63) OF 63 - 5 STEPS



RX(63) OF 63 - 5 STEPS



NOTE: 1) stereoselective, 4) stereoselective, 5) regioselective

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 137:20507 CASREACT

TI Cephalostatin Support Studies. 22. Dyotropic Rearrangement Facilitated Proximal Functionalization and Oxidative Removal of Angular Methyl Groups: Efficient Syntheses of 23'-Decoy Cephalostatin 1 Analogues

AU Li, Wei; LaCour, Thomas G.; Fuchs, P. L.

CS Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA  
SO Journal of the American Chemical Society (2002), 124(17), 4548-4549

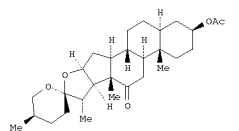
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

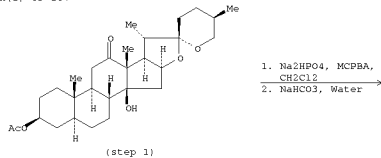
LA English

GI

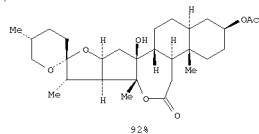


AB Oxidative functionalization (or removal) of a steroidal C18 Me group is possible using a previously unknown dyotropic rearrangement of a seven-membered fused C-ring lactone to a 6-ring spiro lactone. Spiroketal equilibration led to the 23'-deoxy South analog of cephalostatin 1 in only 12 steps (28% overall yield) from hecogenin acetate I, and to a strained diene South 1 analog in 11 steps (28% overall). Total synthesis of 23'-deoxy cephalostatin 1 was accomplished in 16 operations from I (9% overall; average 84% yield per operation), and that of 16',17'-dehydro-23'-deoxy cephalostatin 1 in 15 operations from I (8% overall; average 84%/op).

RX(1) OF 207



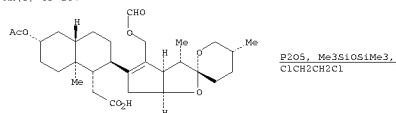
RX(1) OF 207



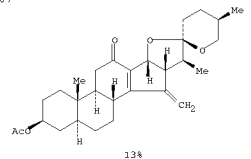
NOTE: Baeyer-Villiger oxidn.

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

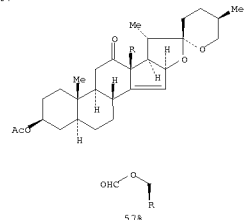
RX(5) OF 207



RX(5) OF 207

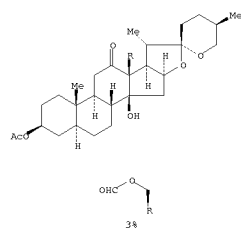


RX(5) OF 207



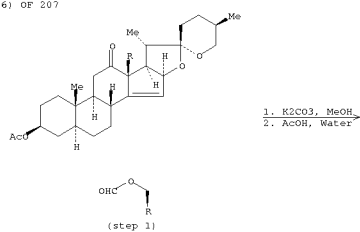
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(5) OF 207

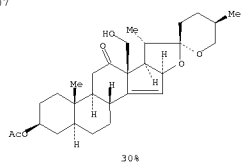


NOTE: Freidel-Crafts reaction, stereoselective

RX(6) OF 207

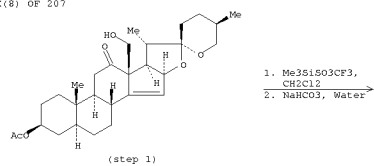


RX(6) OF 207

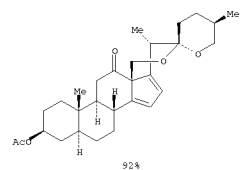


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

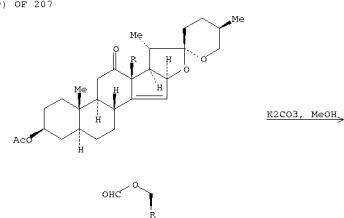
RX(8) OF 207



RX(8) OF 207

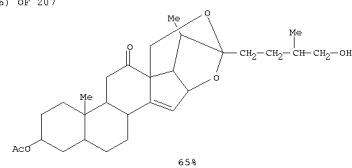


RX(9) OF 207



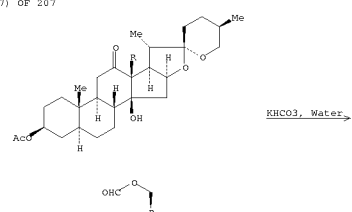
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(6) OF 207

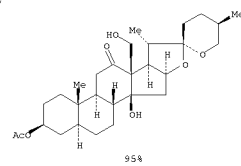


NOTE: stereoselective

RX(7) OF 207

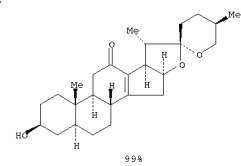


RX(7) OF 207



L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

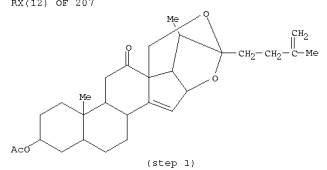
RX(9) OF 207



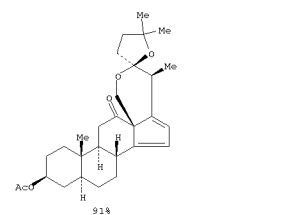
RX(10) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(11) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(12) OF 207

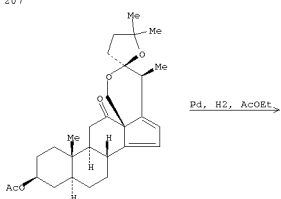


RX(12) OF 207

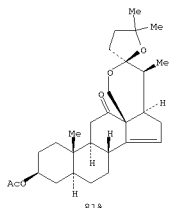


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(13) OF 207

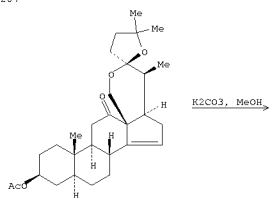


RX(13) OF 207



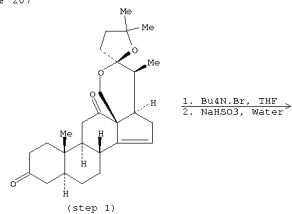
NOTE: regioselective, stereoselective

RX(14) OF 207

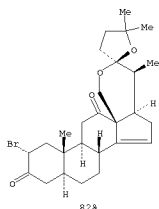


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(16) OF 207

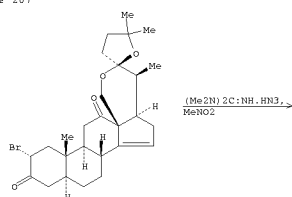


RX(16) OF 207



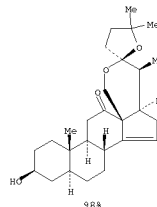
NOTE: stereoselective

RX(17) OF 207

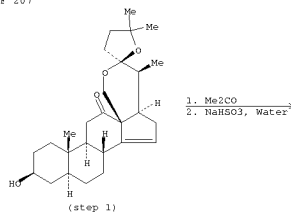


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

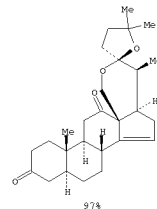
RX(14) OF 207



RX(15) OF 207



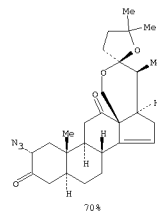
RX(15) OF 207



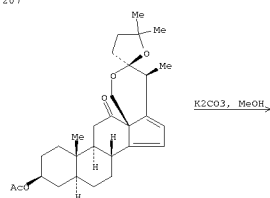
NOTE: Jones reagent used stage 1

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

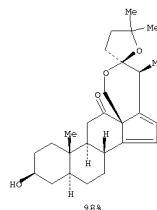
RX(17) OF 207



RX(18) OF 207

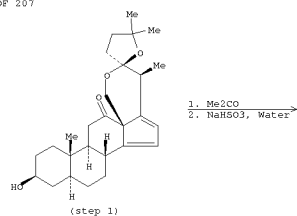


RX(18) OF 207

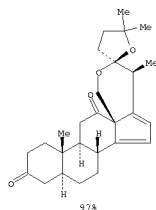


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(19) OF 207

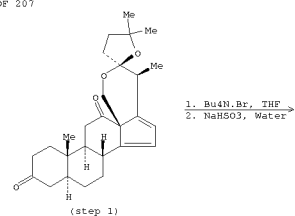


RX(19) OF 207



NOTE: Jones reagent used stage 1

RX(20) OF 207



L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

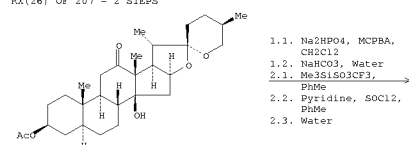
RX(22) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(23) OF 207 - REACTION DIAGRAM NOT AVAILABLE

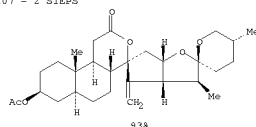
RX(24) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(25) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(26) OF 207 - 2 STEPS

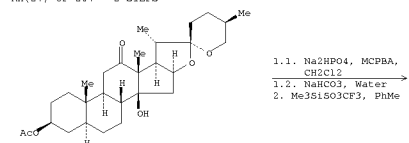


RX(26) OF 207 - 2 STEPS



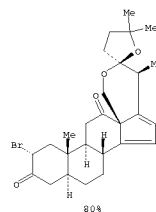
NOTE: 1) Baeyer-Villiger oxidn.

RX(27) OF 207 - 2 STEPS



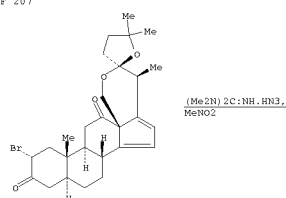
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(20) OF 207

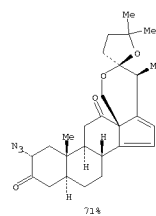


NOTE: stereoselective

RX(21) OF 207

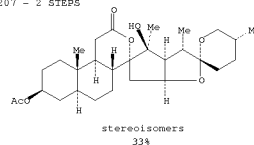


RX(21) OF 207



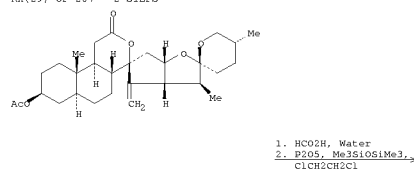
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(27) OF 207 - 2 STEPS

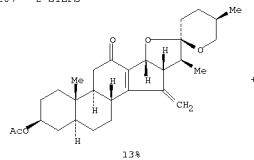


NOTE: 1) Baeyer-Villiger oxidn., 2) stereoselective dyotropic rearrangement

RX(29) OF 207 - 2 STEPS

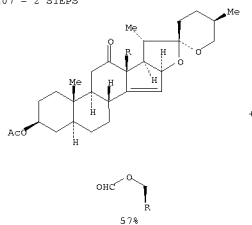


RX(29) OF 207 - 2 STEPS

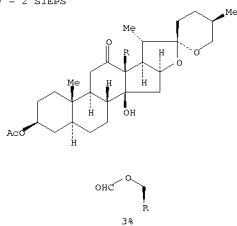


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(29) OF 207 - 2 STEPS

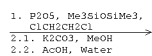
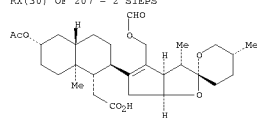


RX(29) OF 207 - 2 STEPS



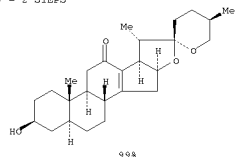
NOTE: 2) Freidel-Crafts reaction, stereoselective

RX(30) OF 207 - 2 STEPS



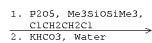
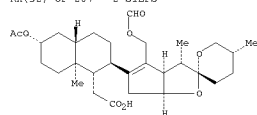
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(31) OF 207 - 2 STEPS

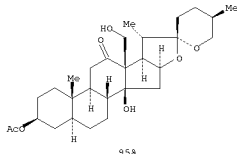


NOTE: 1) Freidel-Crafts reaction, stereoselective

RX(32) OF 207 - 2 STEPS



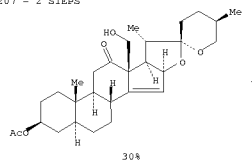
RX(32) OF 207 - 2 STEPS



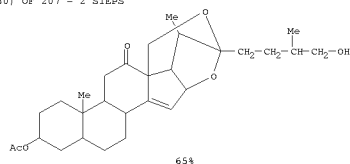
NOTE: 1) Freidel-Crafts reaction, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(30) OF 207 - 2 STEPS

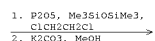
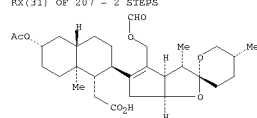


RX(30) OF 207 - 2 STEPS



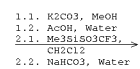
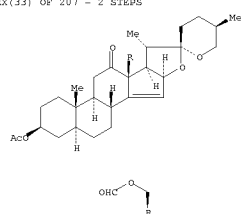
NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective

RX(31) OF 207 - 2 STEPS

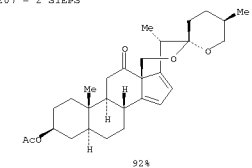


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(33) OF 207 - 2 STEPS



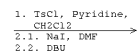
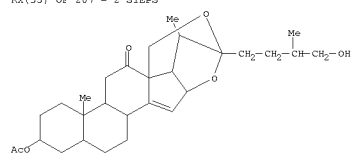
RX(33) OF 207 - 2 STEPS



NOTE: 1) stereoselective

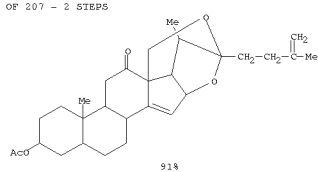
RX(34) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(35) OF 207 - 2 STEPS



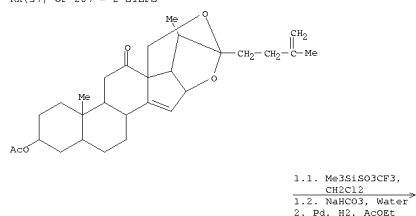
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(35) OF 207 - 2 STEPS

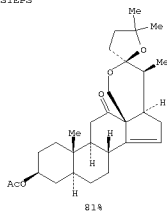


RX(36) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(37) OF 207 - 2 STEPS



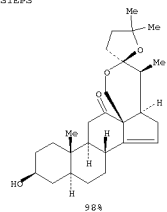
RX(37) OF 207 - 2 STEPS



NOTE: 2) regioselective, stereoselective

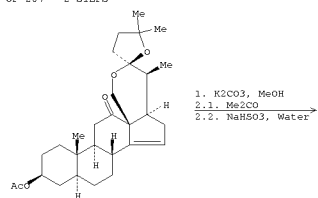
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(39) OF 207 - 2 STEPS

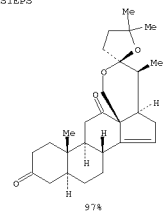


NOTE: 1) regioselective, stereoselective

RX(40) OF 207 - 2 STEPS



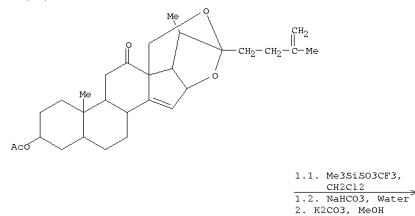
RX(40) OF 207 - 2 STEPS



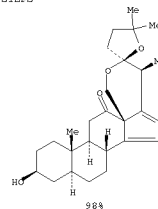
NOTE: 2) Jones reagent used stage 1

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

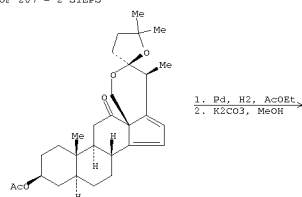
RX(38) OF 207 - 2 STEPS



RX(38) OF 207 - 2 STEPS

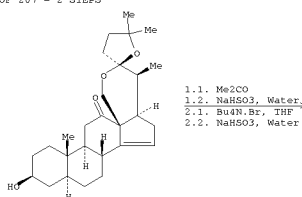


RX(39) OF 207 - 2 STEPS

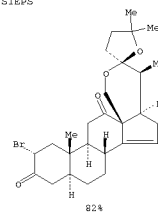


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(41) OF 207 - 2 STEPS

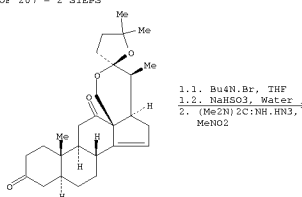


RX(41) OF 207 - 2 STEPS



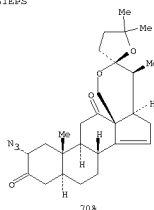
NOTE: 1) Jones reagent used stage 1, 2) stereoselective

RX(42) OF 207 - 2 STEPS



L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

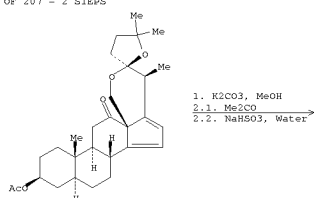
RX(42) OF 207 - 2 STEPS



NOTE: 1) stereoselective

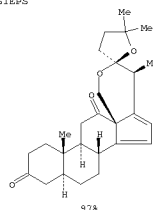
RX(43) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(44) OF 207 - 2 STEPS



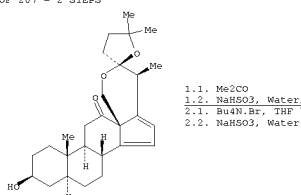
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(44) OF 207 - 2 STEPS

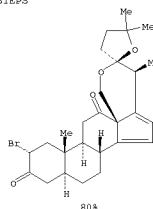


NOTE: 2) Jones reagent used stage 1

RX(45) OF 207 - 2 STEPS



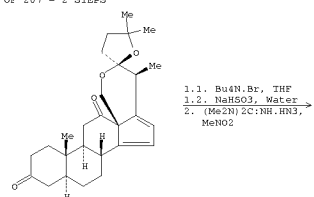
RX(45) OF 207 - 2 STEPS



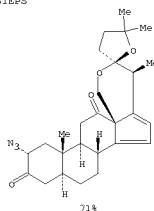
NOTE: 1) Jones reagent used stage 1, 2) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(46) OF 207 - 2 STEPS



RX(46) OF 207 - 2 STEPS



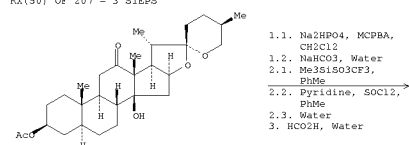
NOTE: 1) stereoselective

RX(47) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(48) OF 207 - REACTION DIAGRAM NOT AVAILABLE

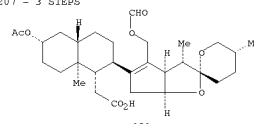
RX(49) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(50) OF 207 - 3 STEPS



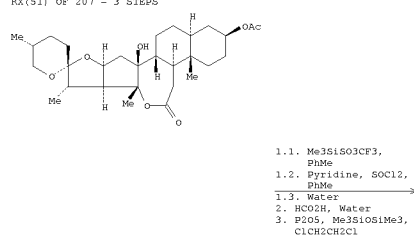
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(50) OF 207 - 3 STEPS

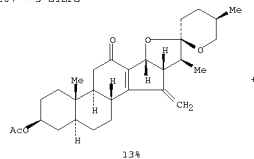


NOTE: 1) Baeyer-Villiger oxidn.

RX(51) OF 207 - 3 STEPS



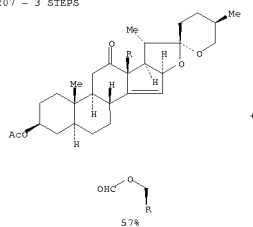
RX(51) OF 207 - 3 STEPS



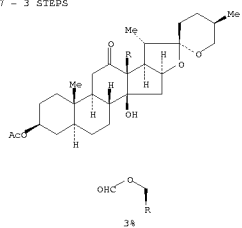


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(51) OF 207 - 3 STEPS

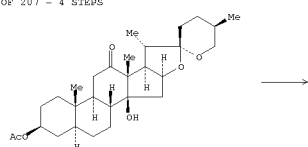


RX(51) OF 207 - 3 STEPS



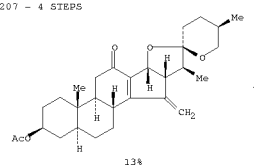
NOTE: 3) Freidel-Crafts reaction, stereoselective

RX(52) OF 207 - 4 STEPS

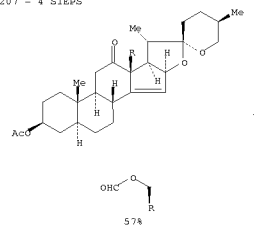


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

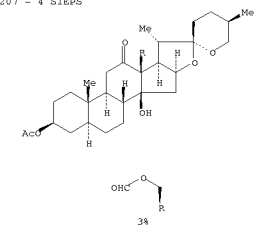
RX(52) OF 207 - 4 STEPS



RX(52) OF 207 - 4 STEPS



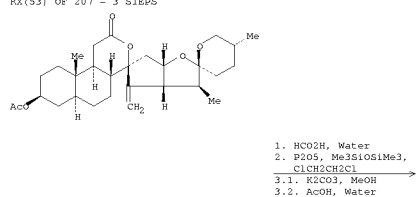
RX(52) OF 207 - 4 STEPS



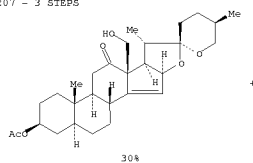
NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

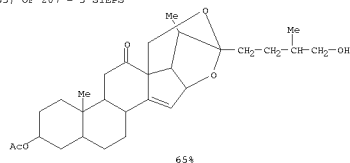
RX(53) OF 207 - 3 STEPS



RX(53) OF 207 - 3 STEPS



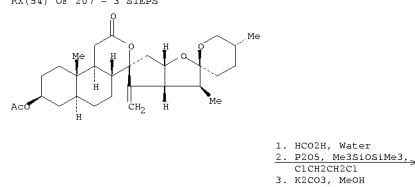
RX(53) OF 207 - 3 STEPS



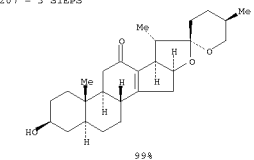
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(54) OF 207 - 3 STEPS

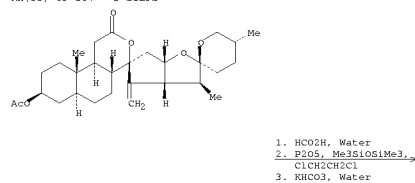


RX(54) OF 207 - 3 STEPS



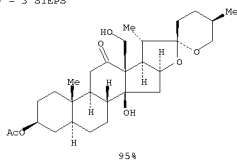
NOTE: 2) Freidel-Crafts reaction, stereoselective

RX(55) OF 207 - 3 STEPS



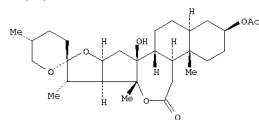
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(55) OF 207 - 3 STEPS



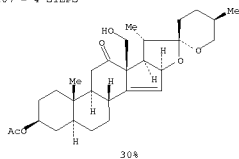
NOTE: 2) Freidel-Crafts reaction, stereoselective

RX(56) OF 207 - 4 STEPS



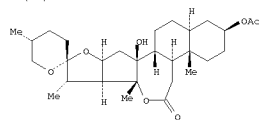
- 1.1. Me3SiSO3CF3, PhMe
- 1.2. Pyridine, SOCl2, PhMe
- 1.3. Water
2. HCO2H, Water
3. P2O5, Me3SiOSiMe3, ClCH2CH2Cl
- 4.1. K2CO3, MeOH
- 4.2. AcOH, Water

RX(56) OF 207 - 4 STEPS



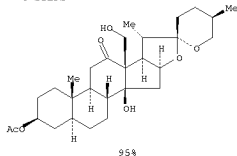
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(58) OF 207 - 4 STEPS



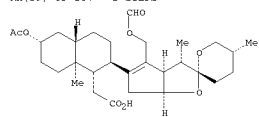
- 1.1. Me3SiSO3CF3, PhMe
- 1.2. Pyridine, SOCl2, PhMe
- 1.3. Water
2. HCO2H, Water
3. P2O5, Me3SiOSiMe3, ClCH2CH2Cl
4. KHCO3, Water

RX(58) OF 207 - 4 STEPS



NOTE: 3) Freidel-Crafts reaction, stereoselective

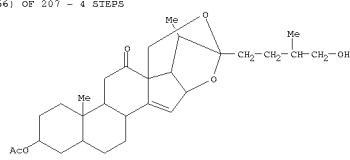
RX(59) OF 207 - 3 STEPS



1. P2O5, Me3SiOSiMe3, ClCH2CH2Cl
- 2.1. K2CO3, MeOH
- 2.2. AcOH, Water
- 3.1. Me3SiSO3CF3, CH2Cl2
- 3.2. NaHCO3, Water

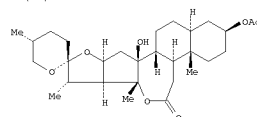
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(56) OF 207 - 4 STEPS



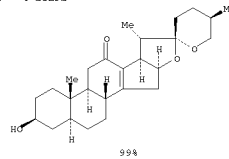
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective

RX(57) OF 207 - 4 STEPS



- 1.1. Me3SiSO3CF3, PhMe
- 1.2. Pyridine, SOCl2, PhMe
- 1.3. Water
2. HCO2H, Water
3. P2O5, Me3SiOSiMe3, ClCH2CH2Cl
4. K2CO3, MeOH

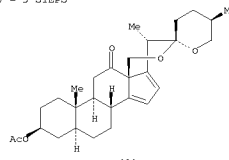
RX(57) OF 207 - 4 STEPS



NOTE: 3) Freidel-Crafts reaction, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

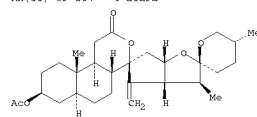
RX(59) OF 207 - 3 STEPS



NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective

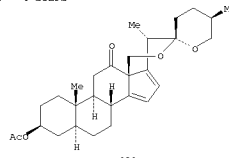
RX(60) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(61) OF 207 - 4 STEPS



1. HCO2H, Water
2. P2O5, Me3SiOSiMe3, ClCH2CH2Cl
- 3.1. K2CO3, MeOH
- 3.2. AcOH, Water
- 4.1. Me3SiSO3CF3, CH2Cl2
- 4.2. NaHCO3, Water

RX(61) OF 207 - 4 STEPS

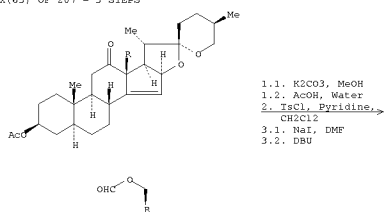


NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective

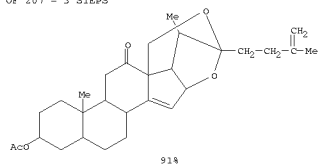
RX(62) OF 207 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(63) OF 207 - 3 STEPS

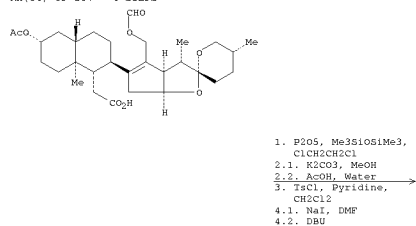


RX(63) OF 207 - 3 STEPS



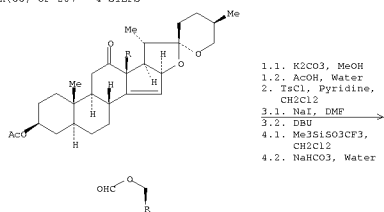
NOTE: 1) stereoselective

RX(64) OF 207 - 4 STEPS

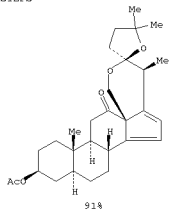


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(66) OF 207 - 4 STEPS



RX(66) OF 207 - 4 STEPS



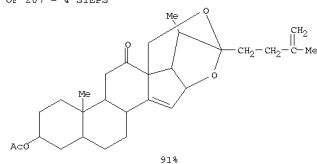
NOTE: 1) stereoselective

RX(67) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(68) OF 207 - REACTION DIAGRAM NOT AVAILABLE

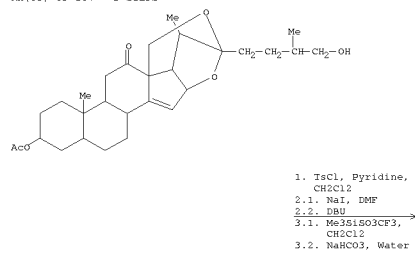
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(64) OF 207 - 4 STEPS

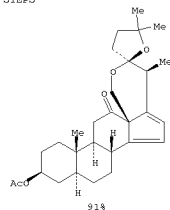


NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective

RX(65) OF 207 - 3 STEPS

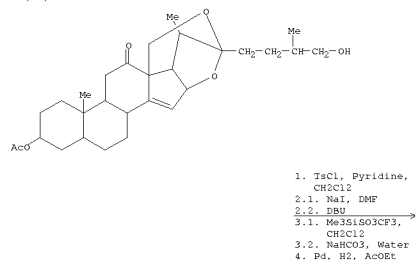


RX(65) OF 207 - 3 STEPS

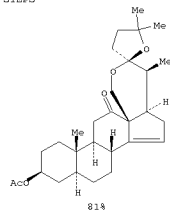


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(69) OF 207 - 4 STEPS



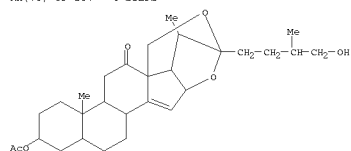
RX(69) OF 207 - 4 STEPS



NOTE: 4) regioselective, stereoselective

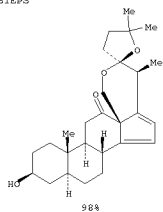
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(70) OF 207 - 4 STEPS



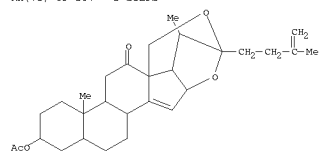
1. TsCl, Pyridine,  
CH<sub>2</sub>Cl<sub>2</sub>  
2.1. NaI, DMF  
2.2. DBU  
3.1. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>,  
CH<sub>2</sub>Cl<sub>2</sub>  
3.2. NaHCO<sub>3</sub>, Water  
4. K<sub>2</sub>CO<sub>3</sub>, MeOH

RX(70) OF 207 - 4 STEPS



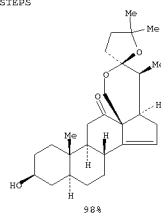
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(71) OF 207 - 3 STEPS



1.1. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>,  
CH<sub>2</sub>Cl<sub>2</sub>  
1.2. NaHCO<sub>3</sub>, Water  
2. Pd, H<sub>2</sub>, AcOEt  
3. K<sub>2</sub>CO<sub>3</sub>, MeOH

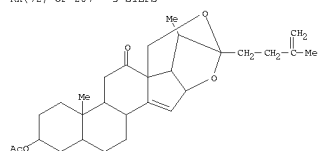
RX(71) OF 207 - 3 STEPS



NOTE: 2) regioselective, stereoselective

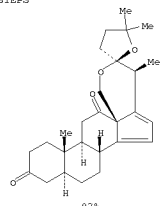
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(72) OF 207 - 3 STEPS



1.1. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>,  
CH<sub>2</sub>Cl<sub>2</sub>  
1.2. NaHCO<sub>3</sub>, Water  
2. K<sub>2</sub>CO<sub>3</sub>, MeOH  
3.1. Me<sub>2</sub>CO  
3.2. NaHSO<sub>3</sub>, Water

RX(72) OF 207 - 3 STEPS

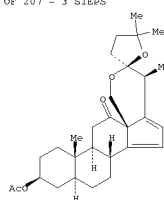


NOTE: 3) Jones reagent used stage 1

RX(73) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(74) OF 207 - REACTION DIAGRAM NOT AVAILABLE

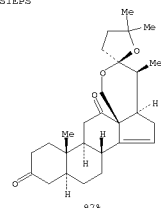
RX(75) OF 207 - 3 STEPS



1. Pd, H<sub>2</sub>, AcOEt  
2. K<sub>2</sub>CO<sub>3</sub>, MeOH  
3.1. Me<sub>2</sub>CO  
3.2. NaHSO<sub>3</sub>, Water

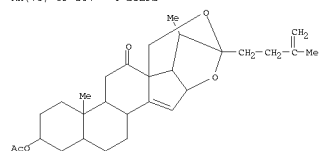
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(75) OF 207 - 3 STEPS



NOTE: 1) regioselective, stereoselective, 3) Jones reagent used stage 1

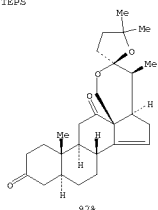
RX(76) OF 207 - 4 STEPS



1.1. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>,  
CH<sub>2</sub>Cl<sub>2</sub>  
1.2. NaHCO<sub>3</sub>, Water  
2. Pd, H<sub>2</sub>, AcOEt  
3. K<sub>2</sub>CO<sub>3</sub>, MeOH  
4.1. Me<sub>2</sub>CO  
4.2. NaHSO<sub>3</sub>, Water

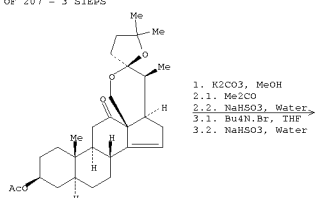
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(76) OF 207 - 4 STEPS



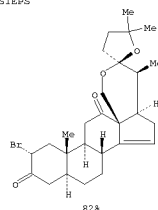
NOTE: 2) regioselective, stereoselective, 4) Jones reagent used stage 1

RX(77) OF 207 - 3 STEPS



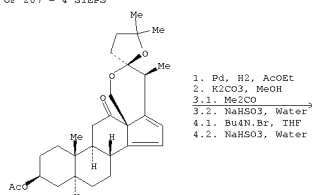
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(77) OF 207 - 3 STEPS



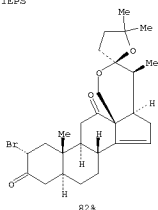
NOTE: 2) Jones reagent used stage 1, 3) stereoselective

RX(78) OF 207 - 4 STEPS



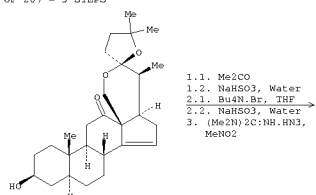
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(78) OF 207 - 4 STEPS

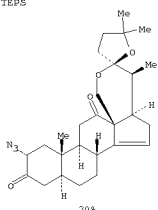


NOTE: 1) regioselective, stereoselective, 3) Jones reagent used stage 1, 4) stereoselective

RX(79) OF 207 - 3 STEPS



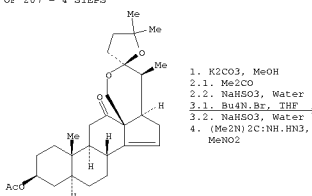
RX(79) OF 207 - 3 STEPS



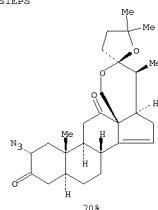
NOTE: 1) Jones reagent used stage 1, 2) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(80) OF 207 - 4 STEPS



RX(80) OF 207 - 4 STEPS



NOTE: 2) Jones reagent used stage 1, 3) stereoselective

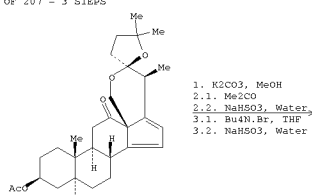
RX(81) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(82) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(83) OF 207 - REACTION DIAGRAM NOT AVAILABLE

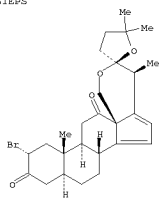
RX(84) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(85) OF 207 - 3 STEPS



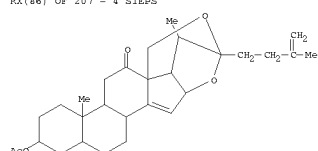
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(85) OF 207 - 3 STEPS



NOTE: 2) Jones reagent used stage 1, 3) stereoselective

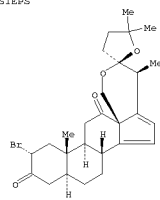
RX(86) OF 207 - 4 STEPS



1.1. Me3SiSO3CF3,  
CH2Cl2  
1.2. NaHCO3, Water  
2. K2CO3, MeOH  
3.1. Me2CO  
3.2. NaHSO3, Water  
4.1. Bu4N.Br, THF  
4.2. NaHSO3, Water

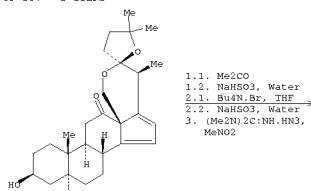
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(86) OF 207 - 4 STEPS



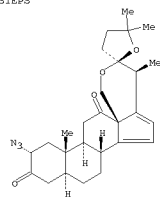
NOTE: 3) Jones reagent used stage 1, 4) stereoselective

RX(87) OF 207 - 3 STEPS



1.1. Me2CO  
1.2. NaHSO3, Water  
2.1. Bu4N.Br, THF  
2.2. NaHSO3, Water  
3. (Me2N)2C:NH.NH3,  
MeNO2

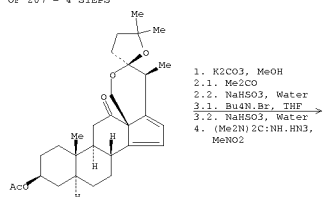
RX(87) OF 207 - 3 STEPS



NOTE: 1) Jones reagent used stage 1, 2) stereoselective

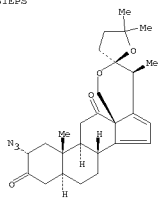
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(88) OF 207 - 4 STEPS



1. K2CO3, MeOH  
2.1. Me2CO  
2.2. NaHSO3, Water  
3.1. Bu4N.Br, THF  
3.2. NaHSO3, Water  
4. (Me2N)2C:NH.NH3,  
MeNO2

RX(88) OF 207 - 4 STEPS



NOTE: 2) Jones reagent used stage 1, 3) stereoselective

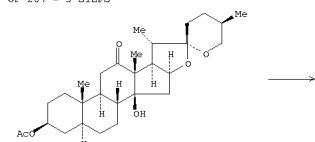
RX(89) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(90) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(91) OF 207 - REACTION DIAGRAM NOT AVAILABLE

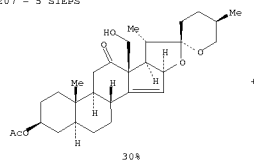
RX(92) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(93) OF 207 - 5 STEPS

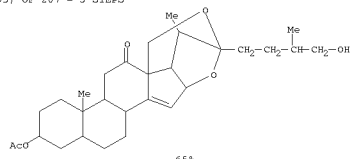


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(93) OF 207 - 5 STEPS

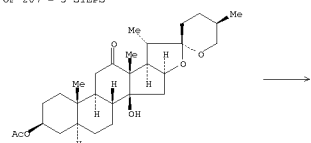


RX(93) OF 207 - 5 STEPS



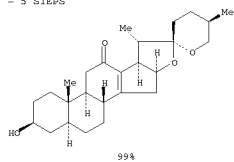
NOTE: 1) Baeyer-Villiger oxldn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective

RX(94) OF 207 - 5 STEPS



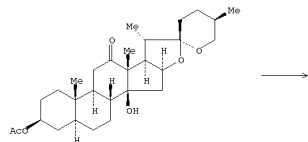
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(94) OF 207 - 5 STEPS

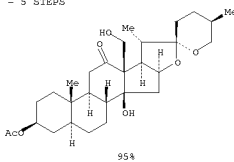


NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective

RX(95) OF 207 - 5 STEPS



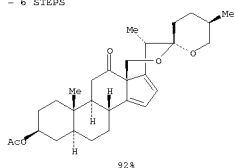
RX(95) OF 207 - 5 STEPS



NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

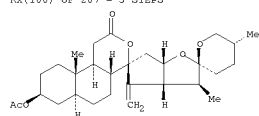
RX(98) OF 207 - 6 STEPS



NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective

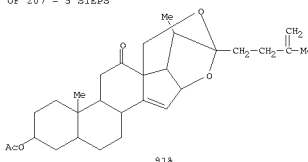
RX(99) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(100) OF 207 - 5 STEPS



1. HCO<sub>2</sub>H, Water  
 2. P<sub>2</sub>O<sub>5</sub>, Me<sub>3</sub>SiOSiMe<sub>3</sub>, ClCH<sub>2</sub>CH<sub>2</sub>Cl  
 3.1. K<sub>2</sub>CO<sub>3</sub>, MeOH  
 3.2. AcOH, Water  
 4. TsCl, Pyridine, CH<sub>2</sub>Cl<sub>2</sub>  
 5.1. NaI, DMF  
 5.2. DBU

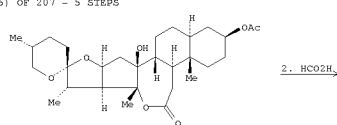
RX(100) OF 207 - 5 STEPS



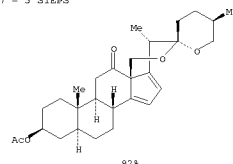
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(96) OF 207 - 5 STEPS



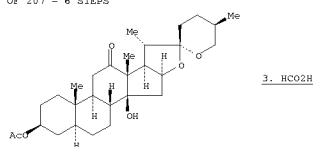
RX(96) OF 207 - 5 STEPS



NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective

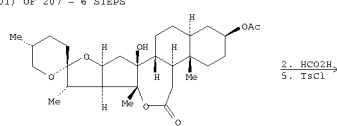
RX(97) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(98) OF 207 - 6 STEPS

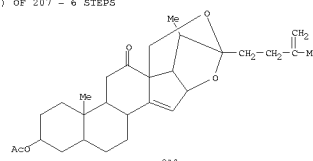


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(101) OF 207 - 6 STEPS

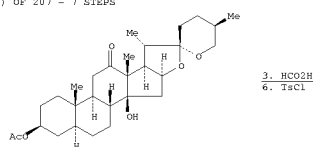


RX(101) OF 207 - 6 STEPS

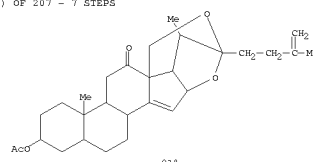


NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective

RX(102) OF 207 - 7 STEPS



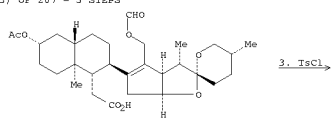
RX(102) OF 207 - 7 STEPS



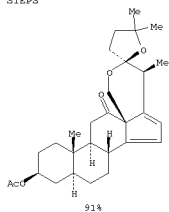
NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(103) OF 207 - 5 STEPS

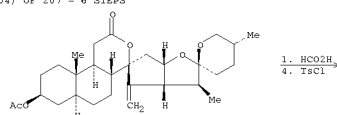


RX(103) OF 207 - 5 STEPS



NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective

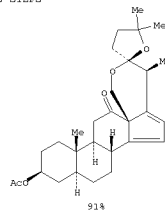
RX(104) OF 207 - 6 STEPS



RX(104) OF 207 - 6 STEPS

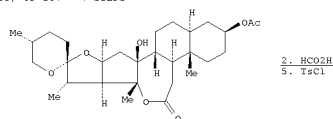
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(104) OF 207 - 6 STEPS

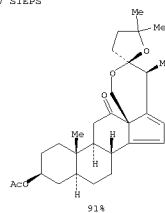


NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective

RX(105) OF 207 - 7 STEPS



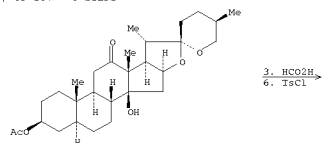
RX(105) OF 207 - 7 STEPS



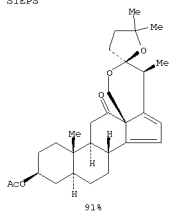
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(106) OF 207 - 8 STEPS

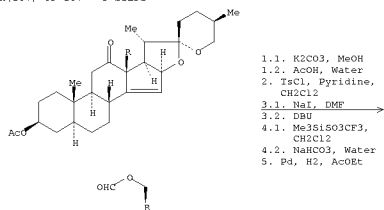


RX(106) OF 207 - 8 STEPS



NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective

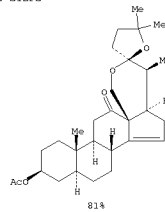
RX(107) OF 207 - 5 STEPS



RX(107) OF 207 - 5 STEPS

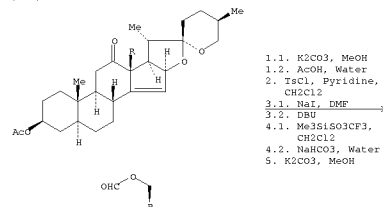
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(107) OF 207 - 5 STEPS

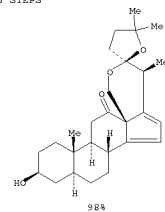


NOTE: 1) stereoselective, 5) regioselective, stereoselective

RX(108) OF 207 - 5 STEPS



RX(108) OF 207 - 5 STEPS

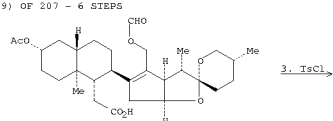


NOTE: 1) stereoselective

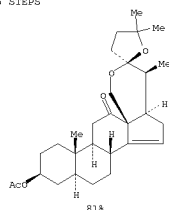


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(109) OF 207 - 6 STEPS

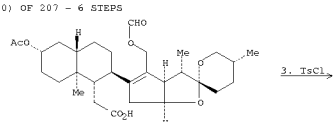


RX(109) OF 207 - 6 STEPS



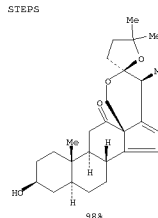
NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 6) regioselective, stereoselective

RX(110) OF 207 - 6 STEPS



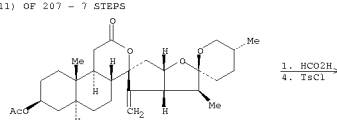
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(110) OF 207 - 6 STEPS

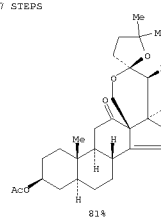


NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective

RX(111) OF 207 - 7 STEPS



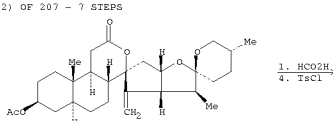
RX(111) OF 207 - 7 STEPS



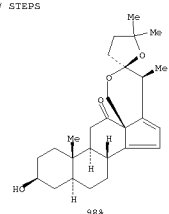
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 7) regioselective, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(112) OF 207 - 7 STEPS

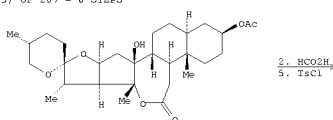


RX(112) OF 207 - 7 STEPS



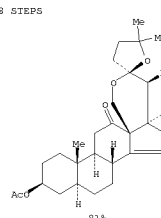
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective

RX(113) OF 207 - 8 STEPS



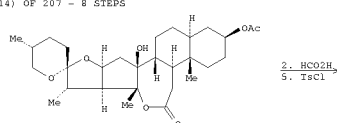
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(113) OF 207 - 8 STEPS

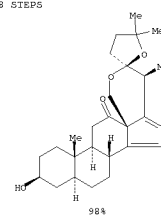


NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 8) regioselective, stereoselective

RX(114) OF 207 - 8 STEPS



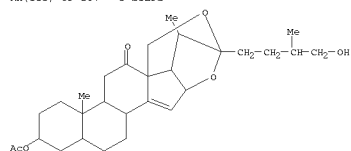
RX(114) OF 207 - 8 STEPS



NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective

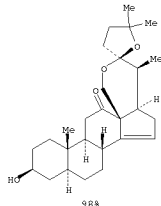
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(115) OF 207 - 5 STEPS



1. TsCl, Pyridine,  
CH<sub>2</sub>Cl<sub>2</sub>  
2.1. NaI, DMF  
2.2. DBU  
3.1. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>,  
CH<sub>2</sub>Cl<sub>2</sub>  
3.2. NaHCO<sub>3</sub>, Water  
4. Pd, H<sub>2</sub>, AcOEt  
5. K<sub>2</sub>CO<sub>3</sub>, MeOH

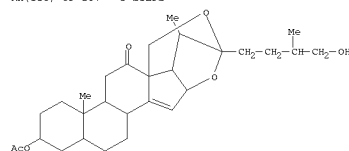
RX(115) OF 207 - 5 STEPS



NOTE: 4) regioselective, stereoselective

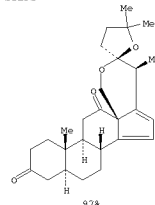
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(116) OF 207 - 5 STEPS



1. TsCl, Pyridine,  
CH<sub>2</sub>Cl<sub>2</sub>  
2.1. NaI, DMF  
2.2. DBU  
3.1. Me<sub>3</sub>SiSO<sub>3</sub>CF<sub>3</sub>,  
CH<sub>2</sub>Cl<sub>2</sub>  
3.2. NaHCO<sub>3</sub>, Water  
4. K<sub>2</sub>CO<sub>3</sub>, MeOH  
5.1. Me<sub>2</sub>CO  
5.2. NaHSO<sub>3</sub>, Water

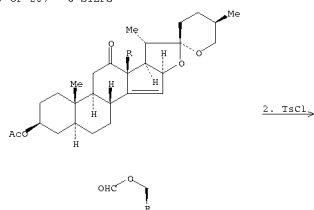
RX(116) OF 207 - 5 STEPS



NOTE: 5) Jones reagent used stage 1

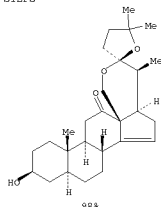
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(117) OF 207 - 6 STEPS



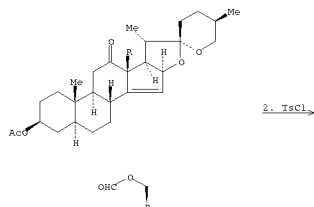
2. TsCl

RX(117) OF 207 - 6 STEPS



NOTE: 1) stereoselective, 5) regioselective, stereoselective

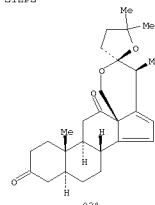
RX(118) OF 207 - 6 STEPS



2. TsCl

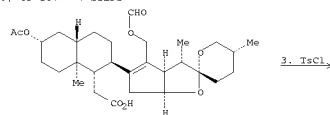
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(118) OF 207 - 6 STEPS



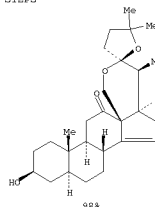
NOTE: 1) stereoselective, 6) Jones reagent used stage 1

RX(119) OF 207 - 7 STEPS



3. TsCl

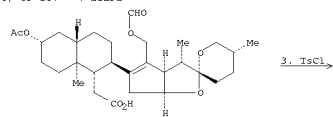
RX(119) OF 207 - 7 STEPS



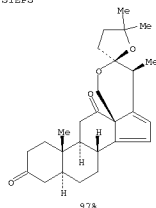
NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 6) regioselective, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(120) OF 207 - 7 STEPS

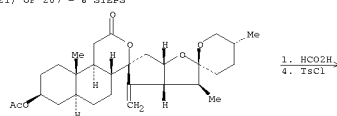


RX(120) OF 207 - 7 STEPS



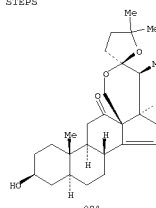
NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 7) Jones reagent used stage 1

RX(121) OF 207 - 8 STEPS



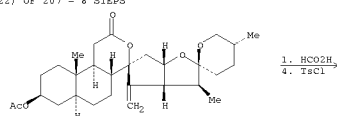
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(121) OF 207 - 8 STEPS

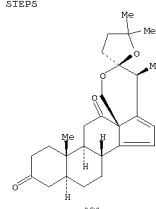


NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 7) regioselective, stereoselective

RX(122) OF 207 - 8 STEPS



RX(122) OF 207 - 8 STEPS



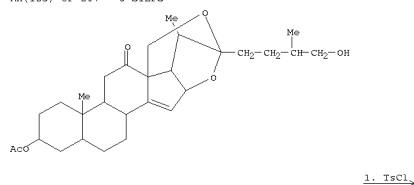
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 8) Jones reagent used stage 1

RX(123) OF 207 - REACTION DIAGRAM NOT AVAILABLE

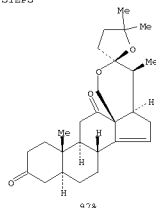
RX(124) OF 207 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(125) OF 207 - 6 STEPS

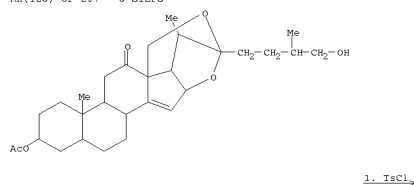


RX(125) OF 207 - 6 STEPS



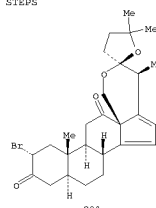
NOTE: 4) regioselective, stereoselective, 6) Jones reagent used stage 1

RX(126) OF 207 - 6 STEPS



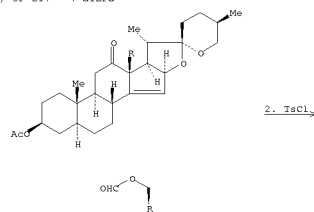
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(126) OF 207 - 6 STEPS

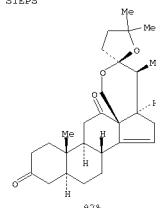


NOTE: 5) Jones reagent used stage 1, 6) stereoselective

RX(127) OF 207 - 7 STEPS



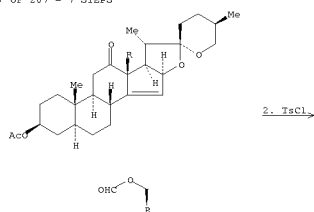
RX(127) OF 207 - 7 STEPS



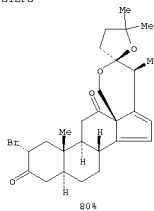
NOTE: 1) stereoselective, 5) regioselective, stereoselective, 7) Jones reagent used stage 1

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(128) OF 207 - 7 STEPS

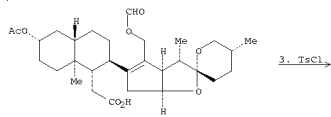


RX(128) OF 207 - 7 STEPS



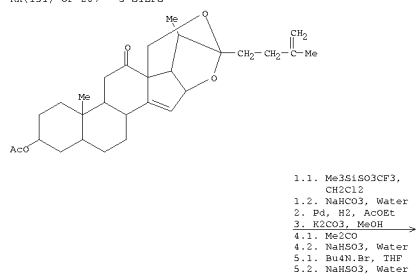
NOTE: 1) stereoselective, 6) Jones reagent used stage 1, 7) stereoselective

RX(129) OF 207 - 8 STEPS

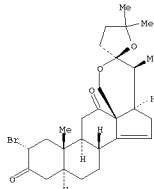


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(131) OF 207 - 5 STEPS



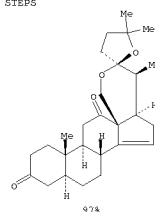
RX(131) OF 207 - 5 STEPS



NOTE: 2) regioselective, stereoselective, 4) Jones reagent used stage 1, 5) stereoselective

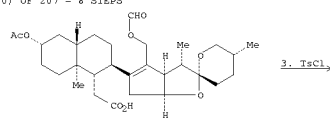
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(129) OF 207 - 8 STEPS

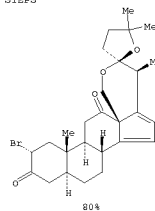


NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 6) regioselective, stereoselective, 8) Jones reagent used stage 1

RX(130) OF 207 - 8 STEPS



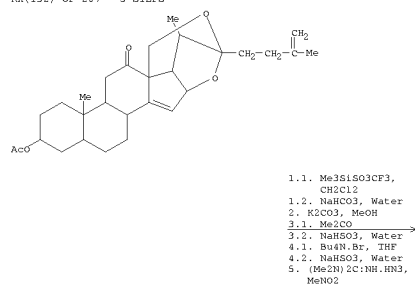
RX(130) OF 207 - 8 STEPS



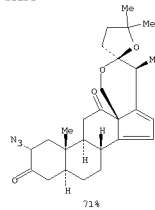
NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 7) Jones reagent used stage 1, 8) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(132) OF 207 - 5 STEPS



RX(132) OF 207 - 5 STEPS



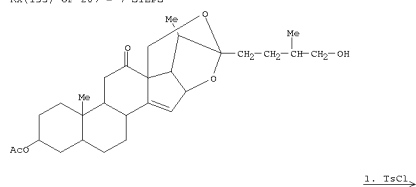
NOTE: 3) Jones reagent used stage 1, 4) stereoselective

RX(133) OF 207 - REACTION DIAGRAM NOT AVAILABLE

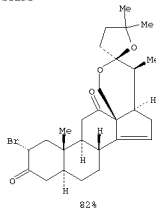
RX(134) OF 207 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(135) OF 207 - 7 STEPS

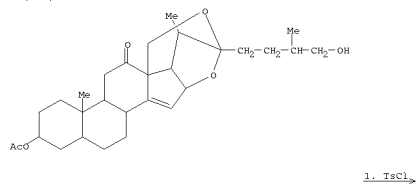


RX(135) OF 207 - 7 STEPS



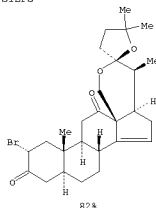
NOTE: 4) regioselective, stereoselective, 6) Jones reagent used stage 1, 7) stereoselective

RX(136) OF 207 - 7 STEPS



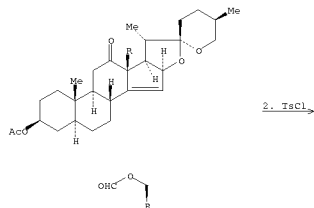
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(137) OF 207 - 8 STEPS

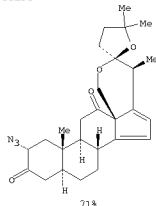


NOTE: 1) stereoselective, 5) regioselective, stereoselective, 7) Jones reagent used stage 1, 8) stereoselective

RX(138) OF 207 - 8 STEPS



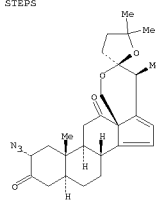
RX(138) OF 207 - 8 STEPS



NOTE: 1) stereoselective, 6) Jones reagent used stage 1, 7) stereoselective

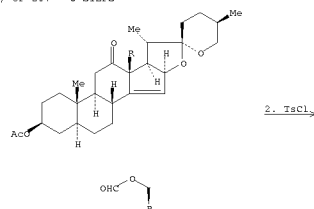
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(136) OF 207 - 7 STEPS



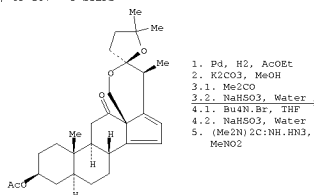
NOTE: 5) Jones reagent used stage 1, 6) stereoselective

RX(137) OF 207 - 8 STEPS

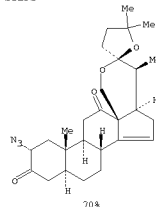


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(139) OF 207 - 5 STEPS

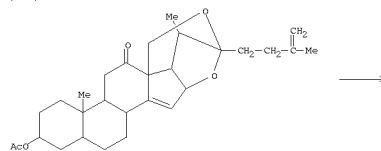


RX(139) OF 207 - 5 STEPS



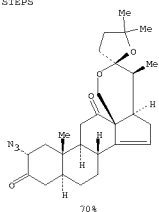
NOTE: 1) regioselective, stereoselective, 3) Jones reagent used stage 1, 4) stereoselective

RX(140) OF 207 - 6 STEPS



L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

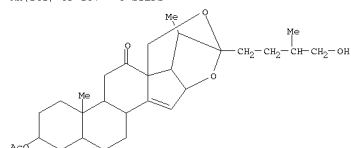
RX(140) OF 207 - 6 STEPS



NOTE: 2) regioselective, stereoselective, 4) Jones reagent used stage 1, 5) stereoselective

RX(141) OF 207 - REACTION DIAGRAM NOT AVAILABLE

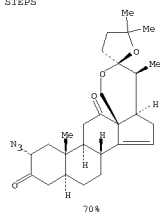
RX(142) OF 207 - 8 STEPS



1. TsCl

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(142) OF 207 - 8 STEPS



NOTE: 4) regioselective, stereoselective, 6) Jones reagent used stage 1, 7) stereoselective

RX(143) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(144) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(145) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(146) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(147) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(148) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(149) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(150) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(151) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(152) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(153) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(154) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(155) OF 207 - REACTION DIAGRAM NOT AVAILABLE

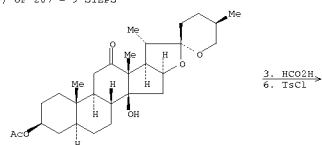
RX(156) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(157) OF 207 - REACTION DIAGRAM NOT AVAILABLE

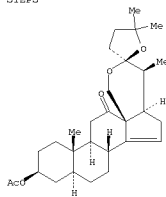
RX(158) OF 207 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(159) OF 207 - 9 STEPS

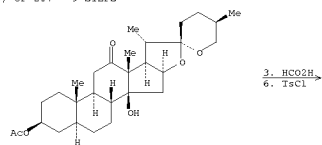
3. HCO<sub>2</sub>H  
6. TsCl

RX(159) OF 207 - 9 STEPS



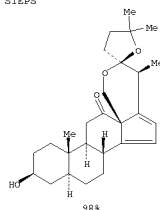
NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 9) regioselective, stereoselective

RX(160) OF 207 - 9 STEPS

3. HCO<sub>2</sub>H  
6. TsCl

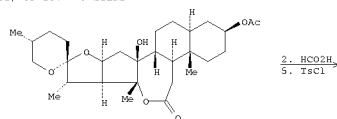
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(160) OF 207 - 9 STEPS

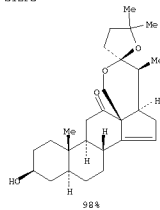


NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective

RX(161) OF 207 - 9 STEPS

2. HCO<sub>2</sub>H  
5. TsCl

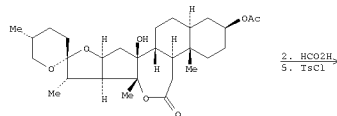
RX(161) OF 207 - 9 STEPS



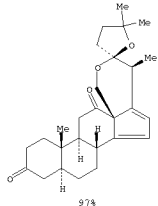
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 8) regioselective, stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(162) OF 207 - 9 STEPS

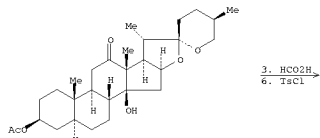


RX(162) OF 207 - 9 STEPS



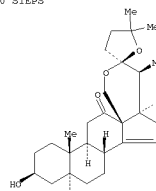
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 9) Jones reagent used stage 1

RX(163) OF 207 - 10 STEPS



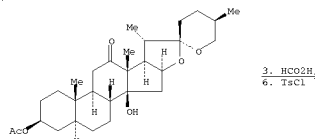
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(163) OF 207 - 10 STEPS

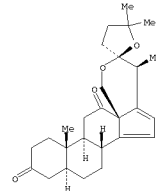


NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 9) regioselective, stereoselective

RX(164) OF 207 - 10 STEPS



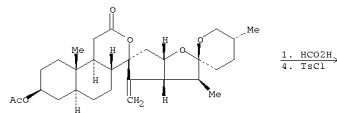
RX(164) OF 207 - 10 STEPS



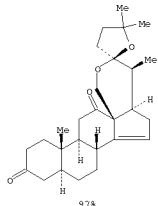
NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 10) Jones reagent used stage 1

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(165) OF 207 - 9 STEPS

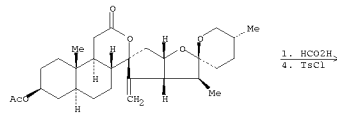


RX(165) OF 207 - 9 STEPS



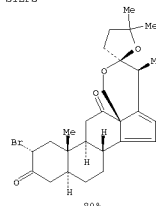
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 7) regioselective, stereoselective, 9) Jones reagent used stage 1

RX(166) OF 207 - 9 STEPS



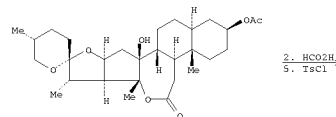
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(166) OF 207 - 9 STEPS

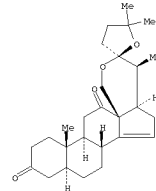


NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 8) Jones reagent used stage 1, 9) stereoselective

RX(167) OF 207 - 10 STEPS



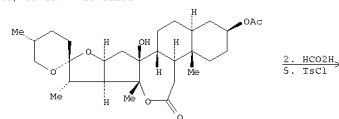
RX(167) OF 207 - 10 STEPS



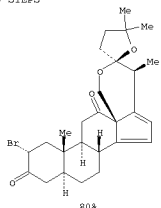
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 8) regioselective, stereoselective, 10) Jones reagent used stage 1

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(168) OF 207 - 10 STEPS

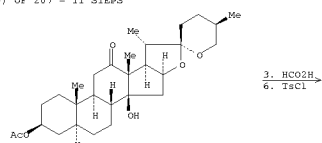


RX(168) OF 207 - 10 STEPS



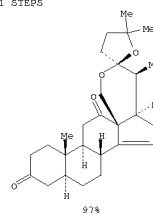
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 9) Jones reagent used stage 1, 10) stereoselective

RX(169) OF 207 - 11 STEPS



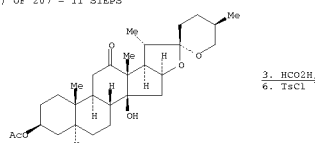
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(169) OF 207 - 11 STEPS

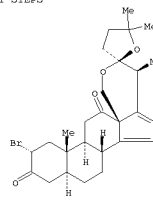


NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 9) regioselective, stereoselective, 11) Jones reagent used stage 1

RX(170) OF 207 - 11 STEPS



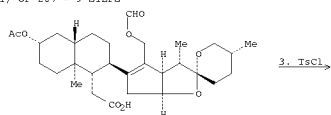
RX(170) OF 207 - 11 STEPS



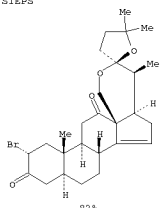
NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 10) Jones reagent used stage 1, 11) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(171) OF 207 - 9 STEPS

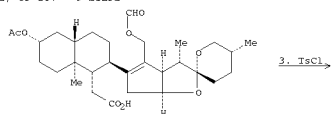


RX(171) OF 207 - 9 STEPS



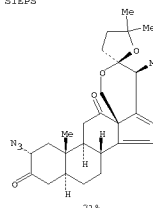
NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 6) regioselective, stereoselective, 8) Jones reagent used stage 1, 9) stereoselective

RX(172) OF 207 - 9 STEPS



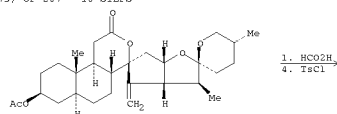
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(172) OF 207 - 9 STEPS

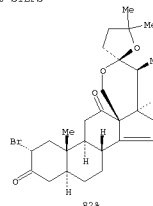


NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 7) Jones reagent used stage 1, 8) stereoselective

RX(173) OF 207 - 10 STEPS



RX(173) OF 207 - 10 STEPS

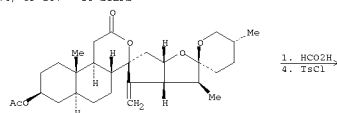


NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 7) regioselective, stereoselective, 9) Jones reagent used stage 1, 10) stereoselective

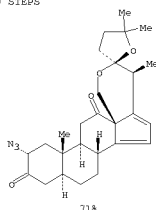


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(174) OF 207 - 10 STEPS

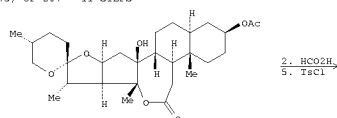


RX(174) OF 207 - 10 STEPS



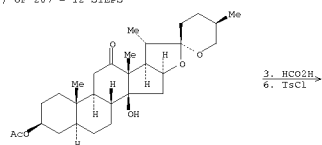
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 8) Jones reagent used stage 1, 9) stereoselective

RX(175) OF 207 - 11 STEPS

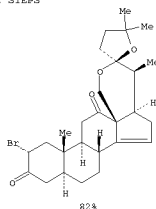


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(177) OF 207 - 12 STEPS

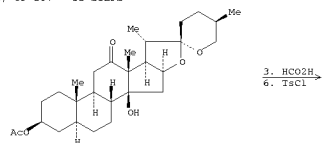


RX(177) OF 207 - 12 STEPS



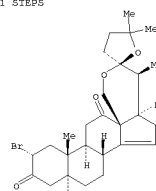
NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 9) regioselective, stereoselective, 11) Jones reagent used stage 1, 12) stereoselective

RX(178) OF 207 - 12 STEPS



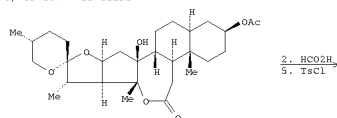
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(175) OF 207 - 11 STEPS

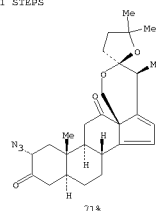


NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 8) regioselective, stereoselective, 10) Jones reagent used stage 1, 11) stereoselective

RX(176) OF 207 - 11 STEPS



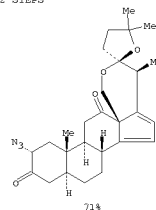
RX(176) OF 207 - 11 STEPS



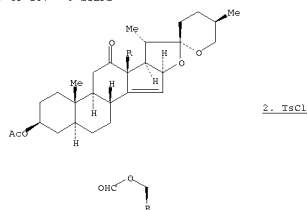
NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 9) Jones reagent used stage 1, 10) stereoselective

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

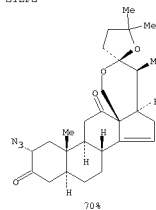
RX(178) OF 207 - 12 STEPS



RX(179) OF 207 - 9 STEPS



RX(179) OF 207 - 9 STEPS

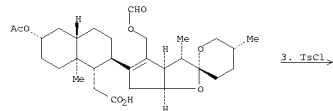


NOTE: 1) stereoselective, 5) regioselective, stereoselective, 7) Jones reagent used stage 1, 8) stereoselective

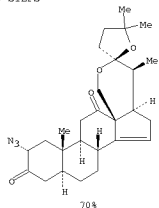
L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(180) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(181) OF 207 - 10 STEPS



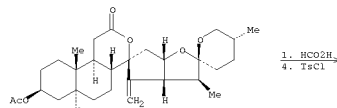
RX(181) OF 207 - 10 STEPS



NOTE: 1) Freidel-Crafts reaction, stereoselective, 2) stereoselective, 6) regioselective, stereoselective, 8) Jones reagent used stage 1, 9) stereoselective

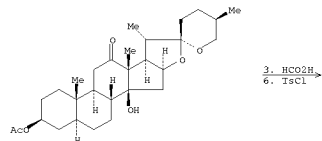
RX(182) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(183) OF 207 - 11 STEPS

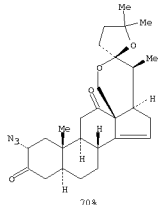


L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(187) OF 207 - 13 STEPS



RX(187) OF 207 - 13 STEPS



NOTE: 1) Baeyer-Villiger oxidn., 4) Freidel-Crafts reaction, stereoselective, 5) stereoselective, 9) regioselective, stereoselective, 11) Jones reagent used stage 1, 12) stereoselective

RX(188) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(189) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(190) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(191) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(192) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(193) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(194) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(195) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(196) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(197) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(198) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(199) OF 207 - REACTION DIAGRAM NOT AVAILABLE

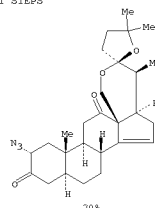
RX(200) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(201) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(202) OF 207 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

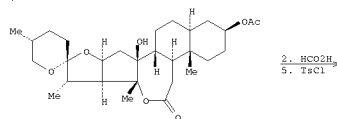
RX(183) OF 207 - 11 STEPS



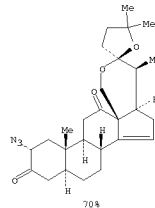
NOTE: 2) Freidel-Crafts reaction, stereoselective, 3) stereoselective, 7) regioselective, stereoselective, 9) Jones reagent used stage 1, 10) stereoselective

RX(184) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(185) OF 207 - 12 STEPS



RX(185) OF 207 - 12 STEPS



NOTE: 3) Freidel-Crafts reaction, stereoselective, 4) stereoselective, 8) regioselective, stereoselective, 10) Jones reagent used stage 1, 11) stereoselective

RX(186) OF 207 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(203) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(204) OF 207 - REACTION DIAGRAM NOT AVAILABLE

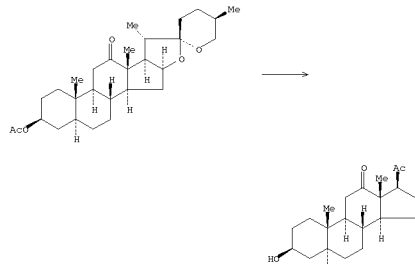
RX(205) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(206) OF 207 - REACTION DIAGRAM NOT AVAILABLE

RX(207) OF 207 - REACTION DIAGRAM NOT AVAILABLE  
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 137:6304 CASREACT  
 TI 3 $\alpha$ -fluoro analogues of allopregnanolone and their binding to GABAA  
 AU receptors  
 AU Slavikova, Barbora; Kasal, Alexander; Chodounska, Hana; Kristofikova,  
 Zdena  
 CS Institute of Organic Chemistry and Biochemistry, Academy of Sciences of  
 the Czech Republic, Prague, 166 10/6, Czech Rep.  
 SO Collection of Czechoslovak Chemical Communications (2002),  
 67(1), 30-46  
 CODEN: CCCCCA; ISSN: 0010-0765  
 PB Institute of Organic Chemistry and Biochemistry, Academy of Sciences of  
 the Czech Republic  
 DT Journal  
 LA English  
 AB (Diethylamino)sulfur trifluoride (DAST) was used for the preparation of  
 3 $\alpha$ -fluorides (e.g., 3 $\alpha$ -fluoro-5 $\alpha$ -pregnane-12,20-dione,  
 3 $\alpha$ -fluoro-16 $\alpha$ -(methoxycarbonyl)methyl]-5 $\alpha$ -pregnan-20-  
 one, Me 3 $\alpha$ -fluoro-5 $\alpha$ -androstane-17 $\beta$ -carboxylate,  
 3 $\alpha$ -fluoro-5 $\beta$ -pregnan-20-one) from the corresponding  
 3 $\beta$ -alcs. and for the preparation of 3,3-difluorides from 3-ketones (e.g.,  
 3,3-difluoro-5 $\alpha$ -pregnan-20-one). Boron trifluoride etherate was  
 used for the conversion of an epoxide into 3 $\alpha$ -fluoro-2 $\beta$ -hydroxy-  
 5 $\alpha$ -pregnan-20-one. The in vitro binding of the 3 $\alpha$ -fluorides  
 and the corresponding 3 $\alpha$ -alcs. to the GABAA receptor was established  
 using [3H]muscimol and [35S]-tert-butylbicyclo[2.2.2]phosphorothionate as  
 ligands.

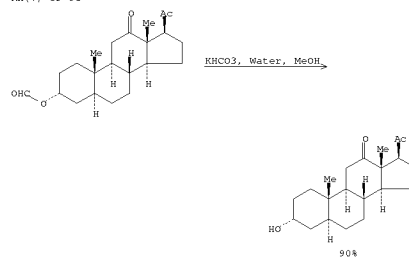
RX(5) OF 96



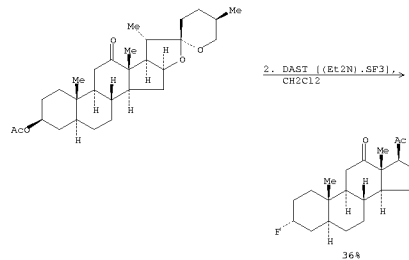
NOTE: literature prepn.

L6 ANSWER 8 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(7) OF 96



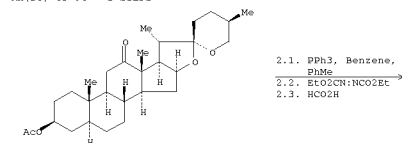
RX(35) OF 96 - 2 STEPS



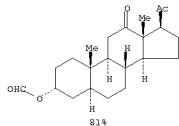
NOTE: 1) literature prepn.

L6 ANSWER 8 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(36) OF 96 - 2 STEPS

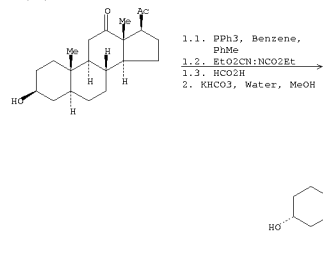


RX(36) OF 96 - 2 STEPS



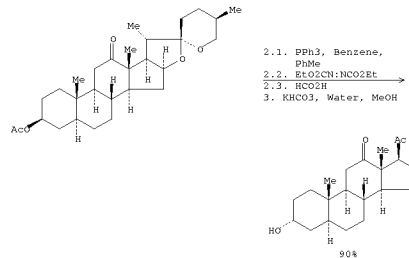
NOTE: 1) literature prepn.

RX(37) OF 96 - 2 STEPS



L6 ANSWER 8 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

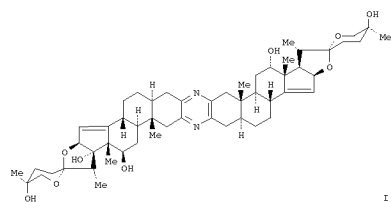
RX(58) OF 96 - 3 STEPS



NOTE: 1) literature prepn.

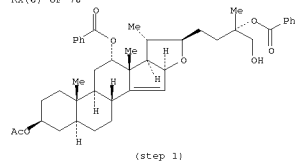
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 136:247740 CASREACT  
 TI The First Total Synthesis of (Corrected) Ritterazine M  
 AU Lee, Seongmin; Fuchs, Philip L.  
 CS Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA  
 SO Organic Letters (2002), 4(3), 317-318  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PB American Chemical Society  
 DT Journal  
 LA English  
 GI



AB Hecogenin acetate was converted to ritterazine M (I) in 16 operations with an average yield per operation of 87%. The overall linear yield was 12%. This confirmed I as the corrected structure for ritterazine M by total synthesis.

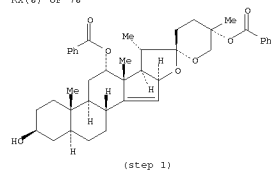
RX(6) OF 78



1. I2, PhI(OAc)2,  
 Cyclohexane,  
 CH2Cl2  
 2. Na2SO3, Water

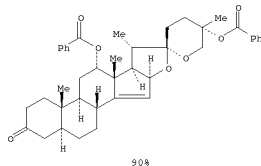
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(8) OF 78



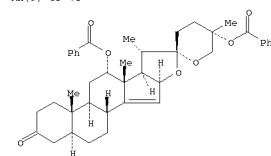
1. Me-morpholineoxide,  
 Pr4N.RuO4, CH2Cl2  
 2. Na2SO3, Water

RX(8) OF 78



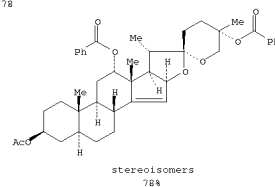
NOTE: mol. sieves used

RX(9) OF 78



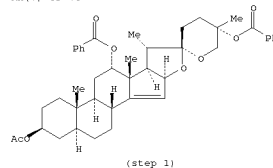
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(6) OF 78



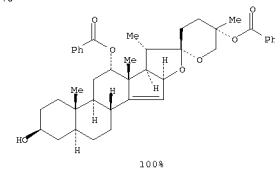
NOTE: Suarez oxidn.

RX(7) OF 78



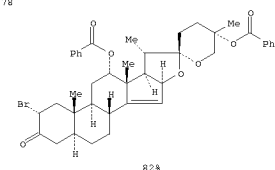
1. K2CO3, MeOH, Water  
 2. NH4Cl, Water

RX(7) OF 78



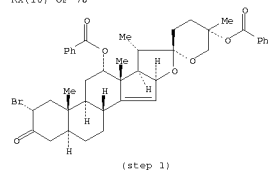
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(9) OF 78



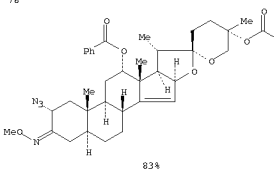
NOTE: other product also detected

RX(10) OF 78



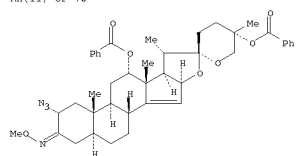
1. (Me2N)2C:NH.NH3,  
 MeNO2  
 2. MeONH2-HCl, CH2Cl2,  
 Pyridine

RX(10) OF 78



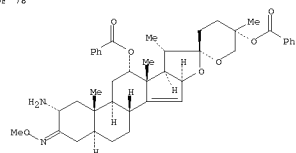
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(11) OF 78



PPh3, Water, THF →

RX(11) OF 78

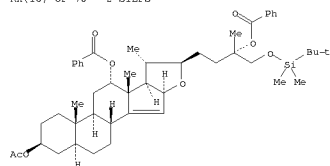


85%

NOTE: Staudinger reduction

RX(12) OF 78 - REACTION DIAGRAM NOT AVAILABLE

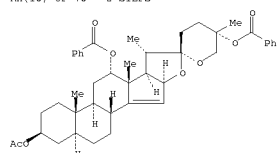
RX(16) OF 78 - 2 STEPS



1.1. BF3-Et2O, CH2Cl2  
1.2. NaHCO3, Water  
2.1. I2, PhI(OAc)2,  
Cyclohexane,  
CH2Cl2  
2.2. Na2SO3, Water

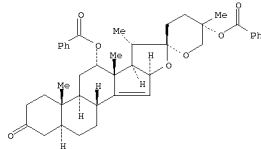
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(18) OF 78 - 2 STEPS



1.1. K2CO3, MeOH,  
Water  
1.2. NH4Cl, Water  
2.1. Me-morpholineoxide, →  
Pr4N.RuO4,  
CH2Cl2  
2.2. Na2SO3, Water

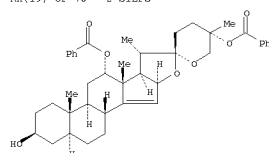
RX(18) OF 78 - 2 STEPS



90%

NOTE: 2) mol. sieves used

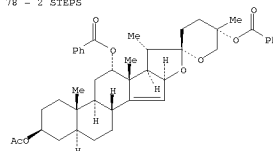
RX(19) OF 78 - 2 STEPS



1.1. Me-morpholineoxide,  
Pr4N.RuO4,  
CH2Cl2  
1.2. Na2SO3, Water  
2. R:23319-66-6, THF

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

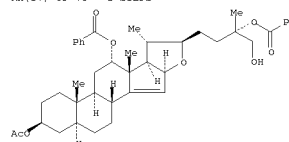
RX(16) OF 78 - 2 STEPS



stereoisomers  
78%

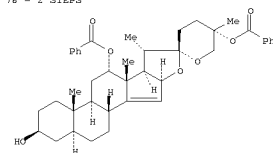
NOTE: 2) Suarez oxidn.

RX(17) OF 78 - 2 STEPS



1.1. I2, PhI(OAc)2,  
Cyclohexane,  
CH2Cl2  
1.2. Na2SO3, Water  
2.1. K2CO3, MeOH,  
Water  
2.2. NH4Cl, Water

RX(17) OF 78 - 2 STEPS

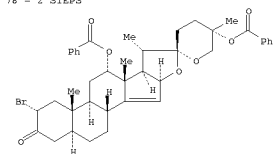


100%

NOTE: 1) Suarez oxidn.

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

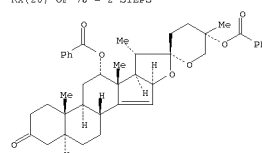
RX(19) OF 78 - 2 STEPS



82%

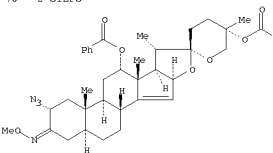
NOTE: 1) mol. sieves used, 2) other product also detected

RX(20) OF 78 - 2 STEPS



1. R:23319-66-6, THF  
2.1. (Me2N)2C:NH.NH3,  
MeNO2  
2.2. MeONH2-HCl,  
CH2Cl2, Pyridine

RX(20) OF 78 - 2 STEPS

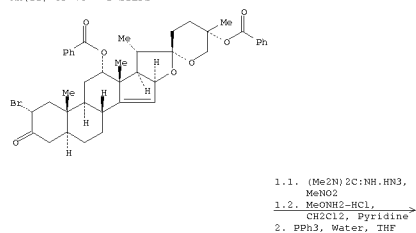


83%

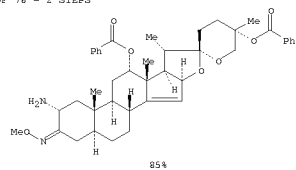
NOTE: 1) other product also detected

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(21) OF 78 - 2 STEPS



RX(21) OF 78 - 2 STEPS



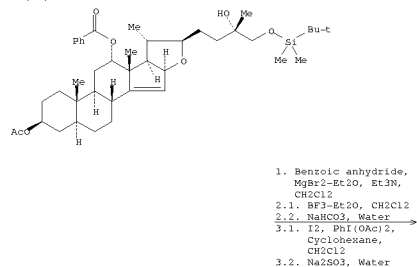
NOTE: 2) Staudinger reduction

RX(22) OF 78 - REACTION DIAGRAM NOT AVAILABLE

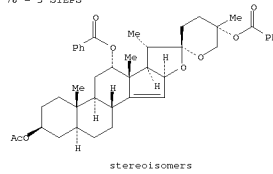
RX(23) OF 78 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(27) OF 78 - 3 STEPS



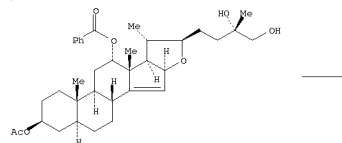
RX(27) OF 78 - 3 STEPS



stereoisomers

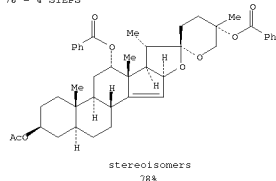
NOTE: 1) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 3) Suarez oxidn.

RX(28) OF 78 - 4 STEPS



L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

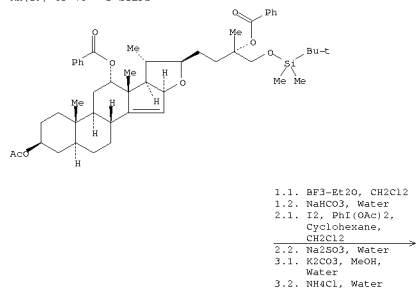
RX(28) OF 78 - 4 STEPS



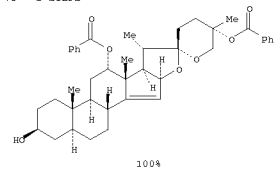
stereoisomers

NOTE: 2) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 4) Suarez oxidn.

RX(29) OF 78 - 3 STEPS



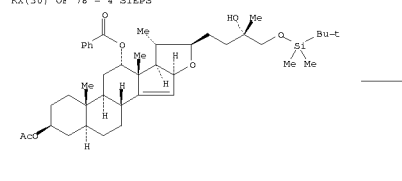
RX(29) OF 78 - 3 STEPS



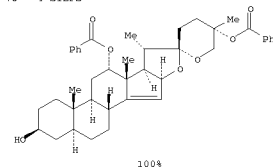
NOTE: 2) Suarez oxidn.

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(30) OF 78 - 4 STEPS

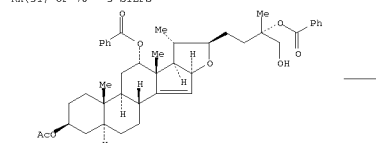


RX(30) OF 78 - 4 STEPS



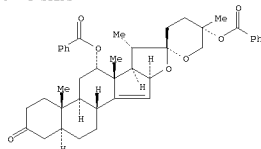
NOTE: 1) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 3) Suarez oxidn.

RX(31) OF 78 - 3 STEPS



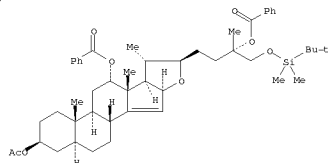
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(31) OF 78 - 3 STEPS



NOTE: 1) Suarez oxidn., 3) mol. sieves used

RX(32) OF 78 - 4 STEPS

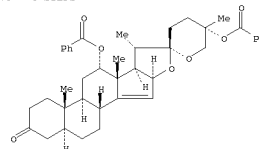


RX(32) OF 78 - 4 STEPS

- 1.1. BF<sub>3</sub>-Et<sub>2</sub>O, CH<sub>2</sub>Cl<sub>2</sub>
- 1.2. NaHCO<sub>3</sub>, Water
- 2.1. I<sub>2</sub>, PhI(OAc)<sub>2</sub>, Cyclohexane, CH<sub>2</sub>Cl<sub>2</sub>
- 2.2. Na<sub>2</sub>SO<sub>3</sub>, Water
- 3.1. K<sub>2</sub>CO<sub>3</sub>, MeOH, Water
- 3.2. NH<sub>4</sub>Cl, Water
- 4.1. Me-morpholineoxide,

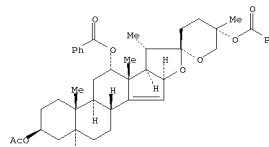
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(32) OF 78 - 4 STEPS



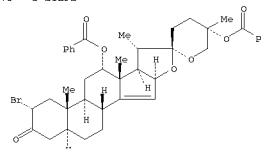
NOTE: 2) Suarez oxidn., 4) mol. sieves used

RX(33) OF 78 - 3 STEPS



- 1.1. K<sub>2</sub>CO<sub>3</sub>, MeOH, Water
- 1.2. NH<sub>4</sub>Cl, Water
- 2.1. Me-morpholineoxide, Ph<sub>4</sub>N.RuO<sub>4</sub>, CH<sub>2</sub>Cl<sub>2</sub>
- 2.2. Na<sub>2</sub>SO<sub>3</sub>, Water
3. R:23319-66-6, THF

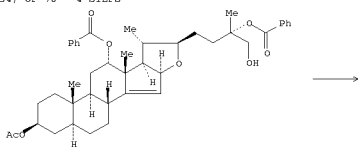
RX(33) OF 78 - 3 STEPS



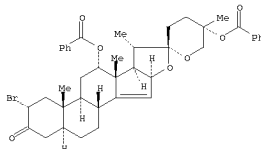
NOTE: 2) mol. sieves used, 3) other product also detected

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(34) OF 78 - 4 STEPS

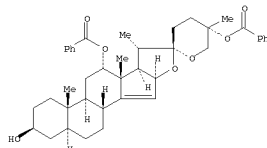


RX(34) OF 78 - 4 STEPS



NOTE: 1) Suarez oxidn., 3) mol. sieves used, 4) other product also detected

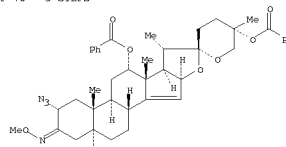
RX(35) OF 78 - 3 STEPS



- 1.1. Me-morpholineoxide, Ph<sub>4</sub>N.RuO<sub>4</sub>, CH<sub>2</sub>Cl<sub>2</sub>
- 1.2. Na<sub>2</sub>SO<sub>3</sub>, Water
2. R:23319-66-6, THF
- 3.1. (Me<sub>3</sub>N)C<sub>7</sub>H<sub>15</sub>NR<sub>3</sub>, MeNO<sub>2</sub>
- 3.2. MeONH<sub>2</sub>-HCl, CH<sub>2</sub>Cl<sub>2</sub>, Pyridine

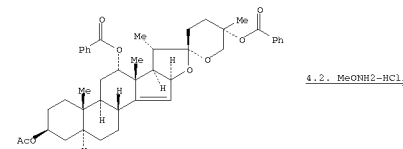
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(35) OF 78 - 3 STEPS

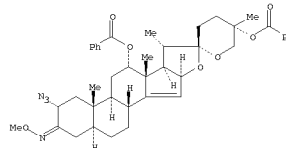


NOTE: 1) mol. sieves used, 2) other product also detected

RX(36) OF 78 - 4 STEPS

4.2. MeONH<sub>2</sub>-HCl

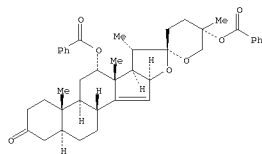
RX(36) OF 78 - 4 STEPS



NOTE: 2) mol. sieves used, 3) other product also detected

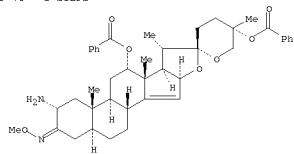
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(37) OF 78 - 3 STEPS



1. R:23319-66-6, THF  
2.1. (Me2N)2C:NH.KN3,  
MeNO2  
2.2. MeONH2-HCl,  
CH2Cl2, Pyridine  
3. PPh3, Water, THF

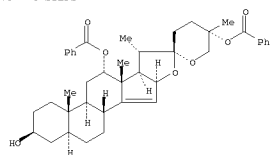
RX(37) OF 78 - 3 STEPS



85%

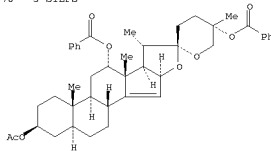
NOTE: 1) other product also detected, 3) Staudinger reduction

RX(38) OF 78 - 4 STEPS



L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(43) OF 78 - 5 STEPS

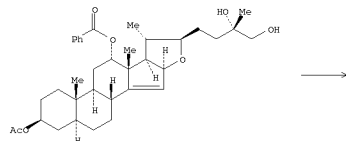


stereoisomers

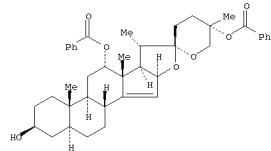
78%

NOTE: 1) stereoselective, other isomer also detected, overall yield=96% for diastereomers, 59:10 (25S):(25R), 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 5) Suarez oxidn.

RX(44) OF 78 - 5 STEPS



RX(44) OF 78 - 5 STEPS



100%

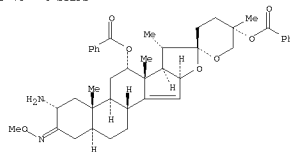
NOTE: 2) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 4) Suarez oxidn.

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(38) OF 78 - 4 STEPS

1.1. Me-morpholineoxide,  
Pr4N.RuO4,  
CH2Cl2  
1.2. Na2SO3, Water  
2. R:23319-66-6, THF  
3.1. (Me2N)2C:NH.KN3,  
MeNO2  
3.2. MeONH2-HCl,  
CH2Cl2, Pyridine  
4. PPh3, Water, THF

RX(38) OF 78 - 4 STEPS



85%

NOTE: 1) mol. sieves used, 2) other product also detected, 4) Staudinger reduction

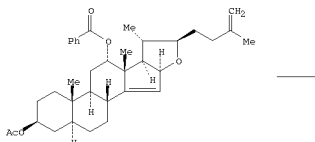
RX(39) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(40) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(41) OF 78 - REACTION DIAGRAM NOT AVAILABLE

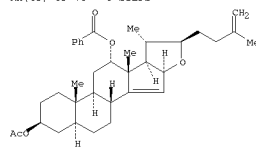
RX(42) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(43) OF 78 - 5 STEPS



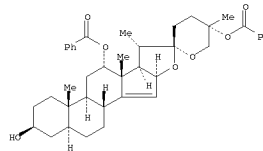
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

RX(45) OF 78 - 6 STEPS



2. t-BuSiMe2Cl  
3. Benzoic anhydride

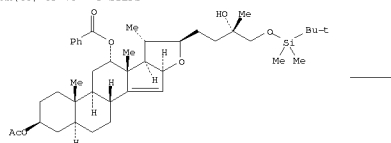
RX(45) OF 78 - 6 STEPS



100%

NOTE: 1) stereoselective, other isomer also detected, overall yield=96% for diastereomers, 59:10 (25S):(25R), 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 5) Suarez oxidn.

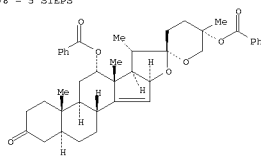
RX(46) OF 78 - 5 STEPS





L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

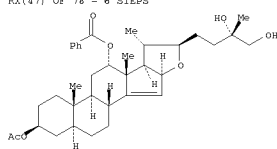
RX(46) OF 78 - 5 STEPS



904

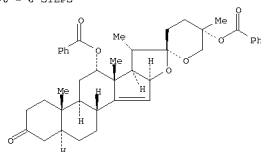
NOTE: 1) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 3) Suarez oxidn., 5) mol. sieves used

RX(47) OF 78 - 6 STEPS



1. t-BuSiMe<sub>2</sub>Cl  
2. Benzoic anhydride

RX(47) OF 78 - 6 STEPS



904

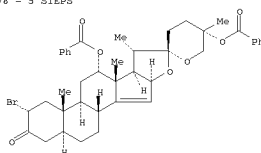
NOTE: 2) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 4) Suarez oxidn., 6) mol. sieves used

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(49) OF 78 - 5 STEPS

1.1. BF<sub>3</sub>-Et<sub>2</sub>O, CH<sub>2</sub>Cl<sub>2</sub>  
1.2. NaHCO<sub>3</sub>, Water  
2.1. I<sub>2</sub>, PhI(OAc)<sub>2</sub>,  
Cyclohexane,  
CH<sub>2</sub>Cl<sub>2</sub>  
2.2. Na<sub>2</sub>SO<sub>3</sub>, Water  
3.1. K<sub>2</sub>CO<sub>3</sub>, MeOH,  
Water  
3.2. NH<sub>4</sub>Cl, Water  
4.1. Me-morpholineoxide,

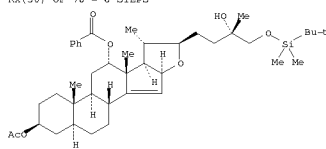
RX(49) OF 78 - 5 STEPS



824

NOTE: 2) Suarez oxidn., 4) mol. sieves used, 5) other product also detected

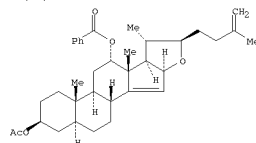
RX(50) OF 78 - 6 STEPS



1. Benzoic anhydride

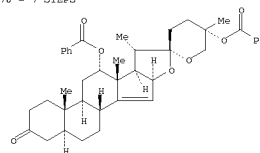
L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(48) OF 78 - 7 STEPS



2. t-BuSiMe<sub>2</sub>Cl  
3. Benzoic anhydride

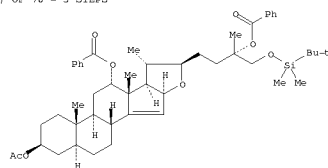
RX(48) OF 78 - 7 STEPS



904

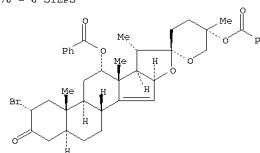
NOTE: 1) stereoselective, other isomer also detected, overall yield=94% for diastereomers, 59:10 (25S):(25R), 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 5) Suarez oxidn., 7) mol. sieves used

RX(49) OF 78 - 5 STEPS



L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

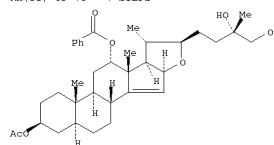
RX(50) OF 78 - 6 STEPS



824

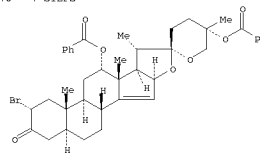
NOTE: 1) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 3) Suarez oxidn., 5) mol. sieves used, 6) other product also detected

RX(51) OF 78 - 7 STEPS



1. t-BuSiMe<sub>2</sub>Cl  
2. Benzoic anhydride

RX(51) OF 78 - 7 STEPS

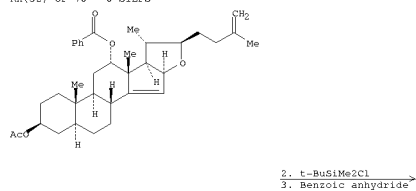


824

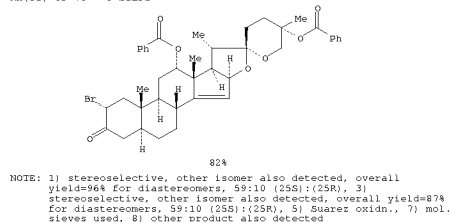
NOTE: 2) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 4) Suarez oxidn., 6) mol. sieves used, 7) other product also detected

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

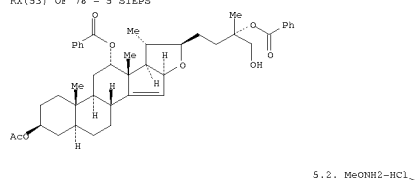
RX(52) OF 78 - 8 STEPS



RX(52) OF 78 - 8 STEPS

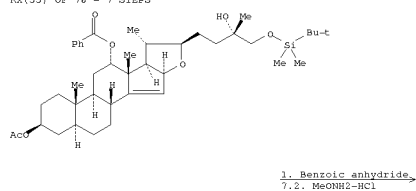


RX(53) OF 78 - 5 STEPS

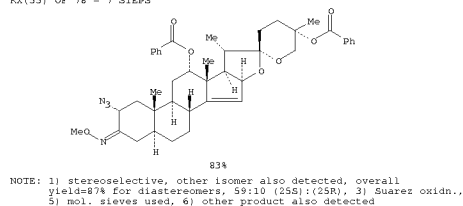


L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

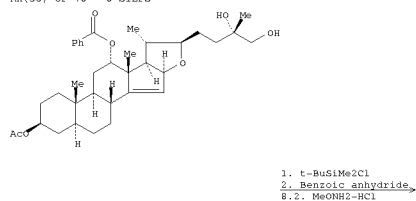
RX(55) OF 78 - 7 STEPS



RX(55) OF 78 - 7 STEPS

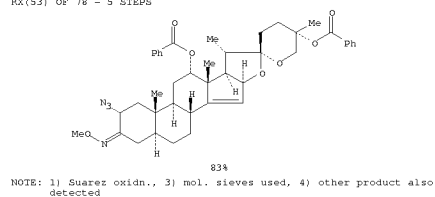


RX(56) OF 78 - 8 STEPS

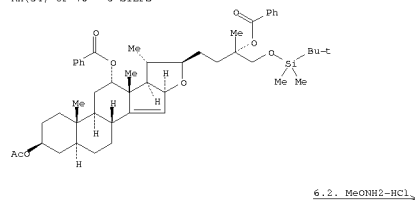


L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

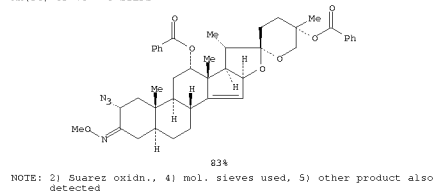
RX(53) OF 78 - 5 STEPS



RX(54) OF 78 - 6 STEPS

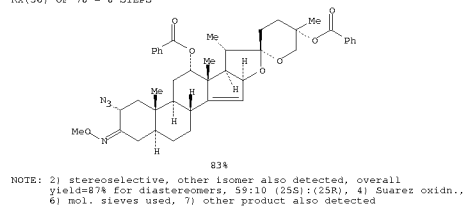


RX(54) OF 78 - 6 STEPS

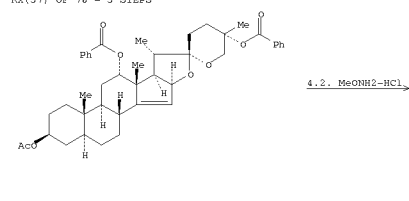


L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN (Continued)

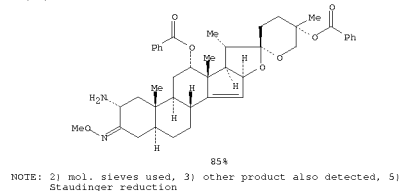
RX(56) OF 78 - 8 STEPS



RX(57) OF 78 - 5 STEPS

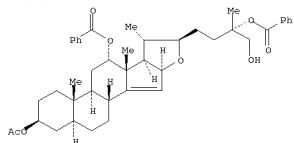


RX(57) OF 78 - 5 STEPS

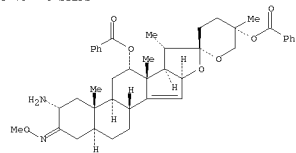


L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(58) OF 78 - 6 STEPS

5.2. MeONH<sub>2</sub>-HCl →

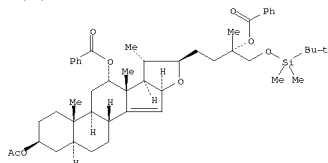
RX(58) OF 78 - 6 STEPS



85%

NOTE: 1) Suarez oxidn., 3) mol. sieves used, 4) other product also detected, 6) Staudinger reduction

RX(59) OF 78 - 7 STEPS

6.2. MeONH<sub>2</sub>-HCl →

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(63) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(64) OF 78 - REACTION DIAGRAM NOT AVAILABLE

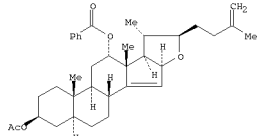
RX(65) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(66) OF 78 - REACTION DIAGRAM NOT AVAILABLE

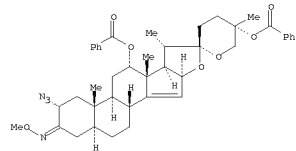
RX(67) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(68) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(69) OF 78 - 9 STEPS

2. t-BuSiMe<sub>2</sub>Cl  
3. Benzoic anhydride  
9.2. MeONH<sub>2</sub>-HCl →

RX(69) OF 78 - 9 STEPS

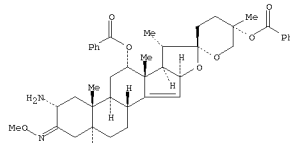


83%

NOTE: 1) stereoselective, other isomer also detected, overall yield=84% for diastereomers, 59:10 (25S):(25R), 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 5) Suarez oxidn., 7) mol. sieves used, 8) other product also detected

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

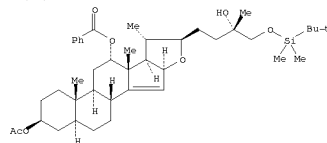
RX(59) OF 78 - 7 STEPS



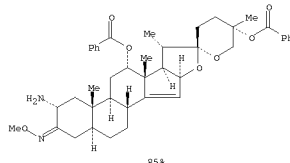
85%

NOTE: 2) Suarez oxidn., 4) mol. sieves used, 5) other product also detected, 7) Staudinger reduction

RX(60) OF 78 - 8 STEPS

1. Benzoic anhydride  
7.2. MeONH<sub>2</sub>-HCl →

RX(60) OF 78 - 8 STEPS



85%

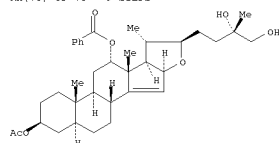
NOTE: 1) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 3) Suarez oxidn., 5) mol. sieves used, 6) other product also detected, 8) Staudinger reduction

RX(61) OF 78 - REACTION DIAGRAM NOT AVAILABLE

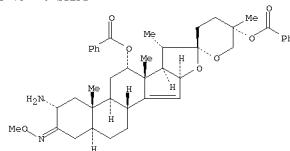
RX(62) OF 78 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(70) OF 78 - 9 STEPS

1. t-BuSiMe<sub>2</sub>Cl  
2. Benzoic anhydride  
8.2. MeONH<sub>2</sub>-HCl →

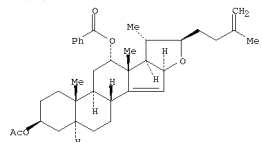
RX(70) OF 78 - 9 STEPS



85%

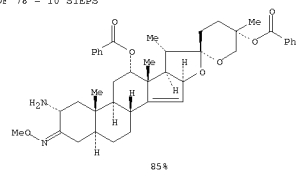
NOTE: 2) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25S):(25R), 4) Suarez oxidn., 6) mol. sieves used, 7) other product also detected, 9) Staudinger reduction

RX(71) OF 78 - 10 STEPS

2. t-BuSiMe<sub>2</sub>Cl  
3. Benzoic anhydride  
9.2. MeONH<sub>2</sub>-HCl →

L6 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(71) OF 78 - 10 STEPS



NOTE: 1) stereoselective, other isomer also detected, overall yield=86% for diastereomers, 59:10 ((25S):(25R), 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 ((25S):(25R), 5) Siarex oxidn., 7) mol. sieves used, 8) other product also detected, 10) Staudinger reduction

RX(72) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(73) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(74) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(75) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(76) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(77) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RX(78) OF 78 - REACTION DIAGRAM NOT AVAILABLE  
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 135:304040 CASREACT

II Novel transformation of 23-bromosapogenins. Synthesis of (21S,23R)-22-hydroxy-23,26-epoxyfurostanes

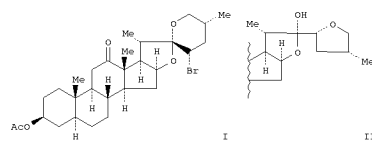
AU Morzycki, J. W.; Janzewska, I.  
CS Institute of Chemistry, University of Bialystok, Bialystok, 15-443, Pol.  
SO Tetrahedron Letters (2001), 42(34), 5989-5991

CODEN: TLEAY; ISSN: 0040-4039  
Elsevier Science Ltd.

PB Journal

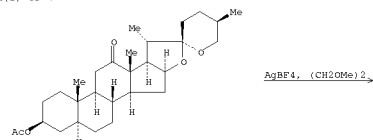
DT English

GI

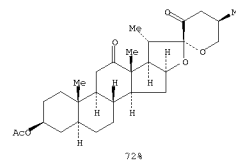


AB ((22S,23S)-23-Bromosapogenins undergo rearrangement to the ((22S,23R)-22-hydroxy-23,26-epoxyfurostanes during alkaline hydrolysis. An efficient degradation procedure of sarsapogenin via the corresponding bisfuran to the C22 lactone is described. E.g., ((22S,23S)-23-bromosapogenin I using NH<sub>3</sub> in H<sub>2</sub>O and BuOH for 7 days rearranged to give epoxyfurostane II in 95% yield.

RX(1) OF 7

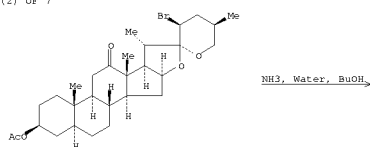


RX(1) OF 7

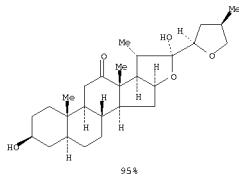


L6 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

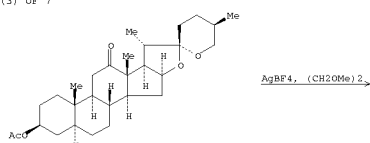
RX(2) OF 7



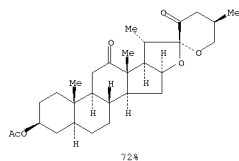
RX(2) OF 7



RX(3) OF 7

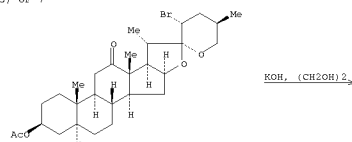


RX(3) OF 7

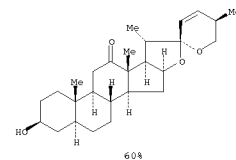


L6 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

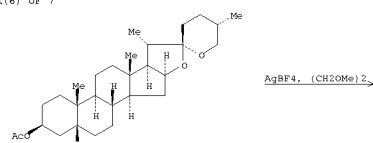
RX(5) OF 7



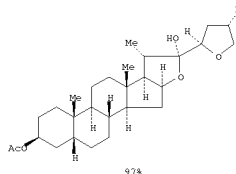
RX(5) OF 7



RX(6) OF 7

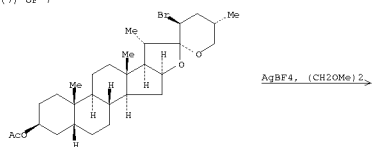


RX(6) OF 7

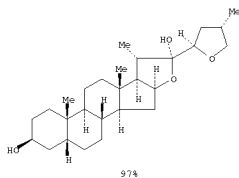


L6 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(7) OF 7

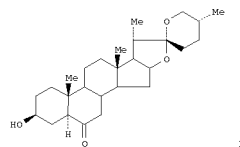


RX(7) OF 7

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

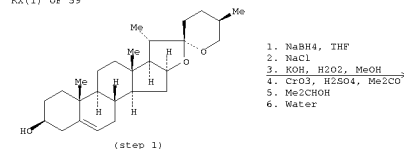
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 134:311351 CASREACT  
 TI Spirostanic analogues of teasterone. Synthesis, characterization and biological activity of laxogenin, (23S)-hydroxylaxogenin and 23-ketolaxogenin (23-oxolaxogenin)  
 AU Iglesias-Arteaga, Martin A.; Perez Gil, Roxana; Martinez, Carlos S. Perez; Manchado, Francisco Coll  
 CS Laboratorio de Productos Naturales, Facultad de Quimica, Universidad de La Habana, La Habana, 10 400, Cuba  
 SO Journal of the Chemical Society, Perkin Transactions 1 (2001), (3), 261-266  
 CODEN: JCSPCR; ISSN: 1472-7781  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English  
 GI



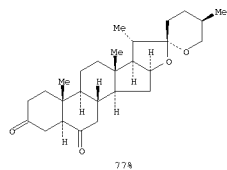
AB The synthesis and characterization of the naturally occurring steroid sapogenin laxogenin I and its derivs. 23-ketolaxogenin and (23S)-hydroxylaxogenin are described. Comps. reported have shown plant-growth-stimulating activity in in vitro tests and in field trials.

RX(1) OF 59



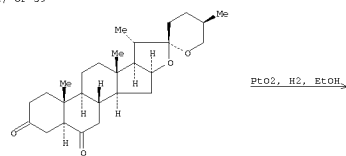
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(1) OF 59

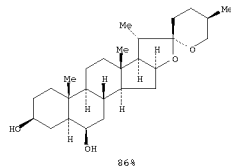


NOTE: stereoselective

RX(2) OF 59



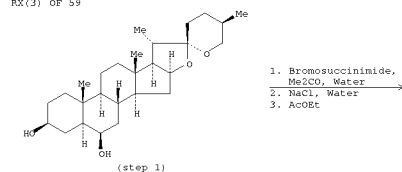
RX(2) OF 59



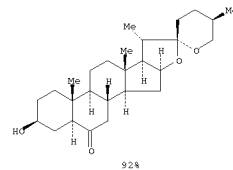
NOTE: stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(3) OF 59

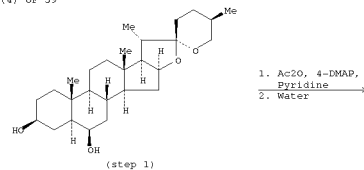


RX(3) OF 59



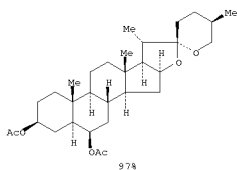
NOTE: stereoselective

RX(4) OF 59



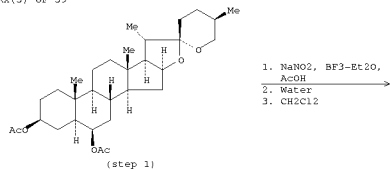
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(4) OF 59

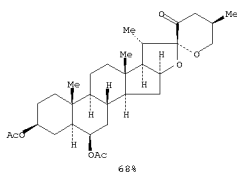


NOTE: stereoselective

RX(5) OF 59



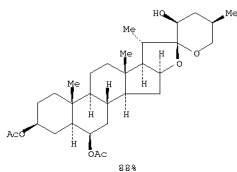
RX(5) OF 59



NOTE: stereoselective

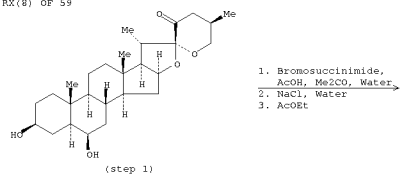
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(7) OF 59

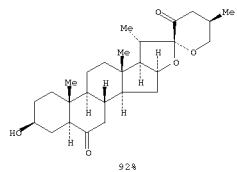


NOTE: stereoselective

RX(8) OF 59



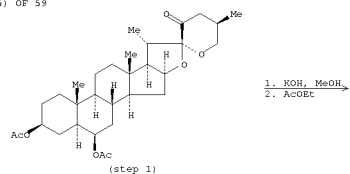
RX(8) OF 59



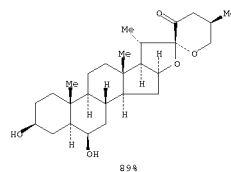
NOTE: stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(6) OF 59

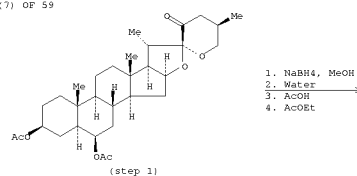


RX(6) OF 59



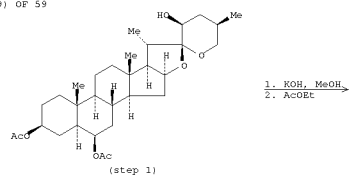
NOTE: stereoselective

RX(7) OF 59

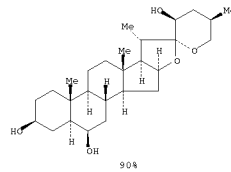


L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(9) OF 59

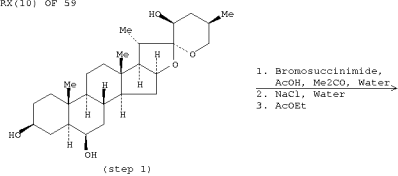


RX(9) OF 59



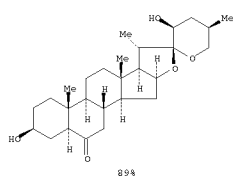
NOTE: stereoselective

RX(10) OF 59



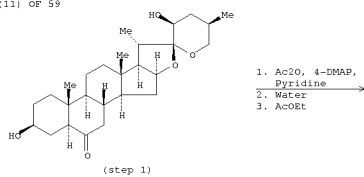
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(10) OF 59

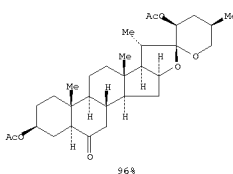


NOTE: stereoselective

RX(11) OF 59



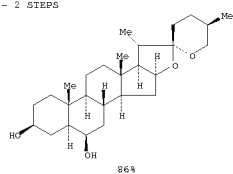
RX(11) OF 59



NOTE: stereoselective

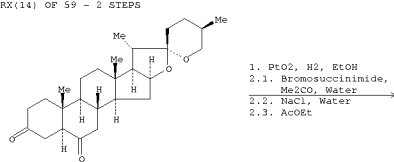
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(13) OF 59 - 2 STEPS

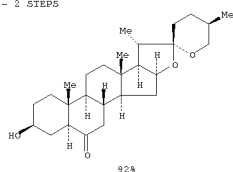


NOTE: 1) stereoselective, 2) stereoselective

RX(14) OF 59 - 2 STEPS



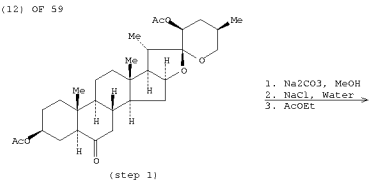
RX(14) OF 59 - 2 STEPS



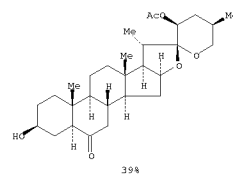
NOTE: 1) stereoselective, 2) stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(12) OF 59

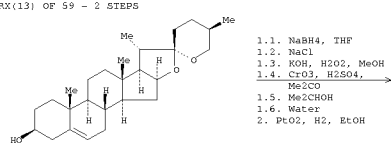


RX(12) OF 59



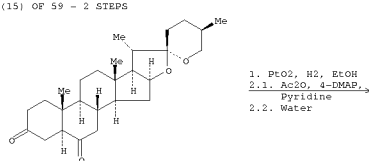
NOTE: stereoselective

RX(13) OF 59 - 2 STEPS

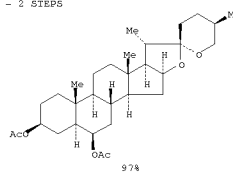


L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(15) OF 59 - 2 STEPS

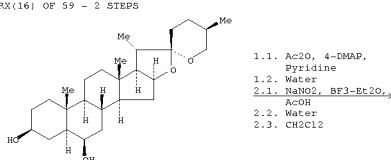


RX(15) OF 59 - 2 STEPS



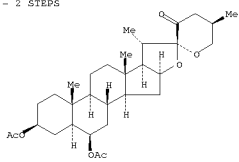
NOTE: 1) stereoselective, 2) stereoselective

RX(16) OF 59 - 2 STEPS



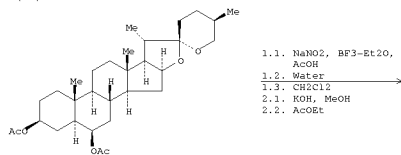
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(16) OF 59 - 2 STEPS



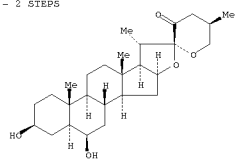
NOTE: 1) stereoselective, 2) stereoselective

RX(17) OF 59 - 2 STEPS



1.1. NaNO<sub>2</sub>, BF<sub>3</sub>-Et<sub>2</sub>O,  
AcOH  
1.2. Water  
1.3. CH<sub>2</sub>Cl<sub>2</sub>  
2.1. KOH, MeOH  
2.2. AcOEt

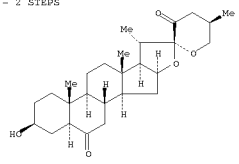
RX(17) OF 59 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

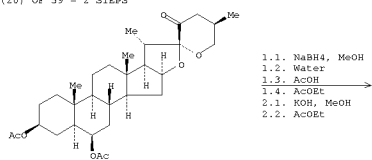
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(19) OF 59 - 2 STEPS



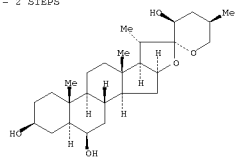
NOTE: 1) stereoselective, 2) stereoselective

RX(20) OF 59 - 2 STEPS



1.1. NaBH<sub>4</sub>, MeOH  
1.2. Water  
1.3. AcOH  
1.4. AcOEt  
2.1. KOH, MeOH  
2.2. AcOEt

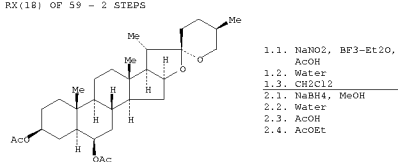
RX(20) OF 59 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

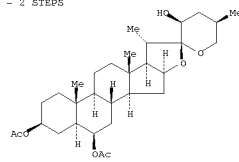
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(18) OF 59 - 2 STEPS



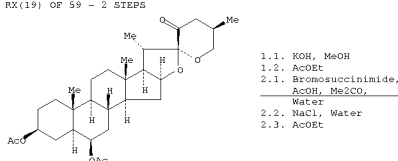
1.1. NaNO<sub>2</sub>, BF<sub>3</sub>-Et<sub>2</sub>O,  
AcOH  
1.2. Water  
1.3. CH<sub>2</sub>Cl<sub>2</sub>  
2.1. NaBH<sub>4</sub>, MeOH  
2.2. Water  
2.3. AcOH  
2.4. AcOEt

RX(18) OF 59 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

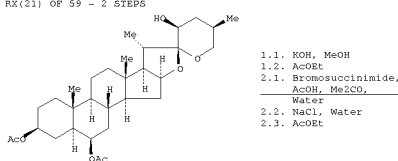
RX(19) OF 59 - 2 STEPS



1.1. KOH, MeOH  
1.2. AcOEt  
2.1. Bromosuccinimide,  
AcOH, Me<sub>2</sub>CO,  
Water  
2.2. NaCl, Water  
2.3. AcOEt

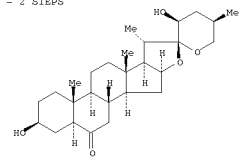
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(21) OF 59 - 2 STEPS



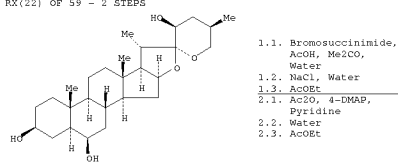
1.1. KOH, MeOH  
1.2. AcOEt  
2.1. Bromosuccinimide,  
AcOH, Me<sub>2</sub>CO,  
Water  
2.2. NaCl, Water  
2.3. AcOEt

RX(21) OF 59 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

RX(22) OF 59 - 2 STEPS

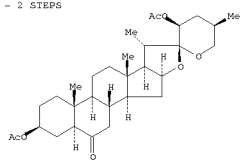


1.1. Bromosuccinimide,  
AcOH, Me<sub>2</sub>CO,  
Water  
1.2. NaCl, Water  
1.3. AcOEt  
2.1. Ac<sub>2</sub>O, 4-DMAP,  
Pyridine  
2.2. Water  
2.3. AcOEt



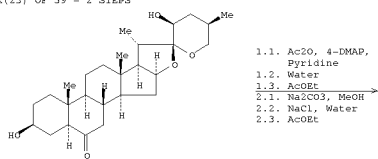
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(22) OF 59 - 2 STEPS

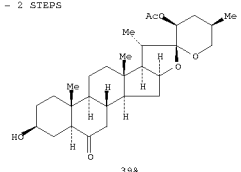


NOTE: 1) stereoselective, 2) stereoselective

RX(23) OF 59 - 2 STEPS



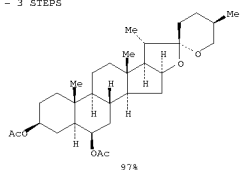
RX(23) OF 59 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

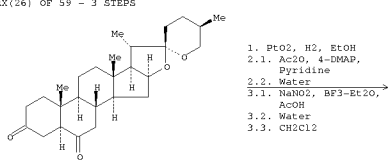
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(25) OF 59 - 3 STEPS

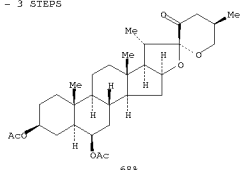


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RX(26) OF 59 - 3 STEPS



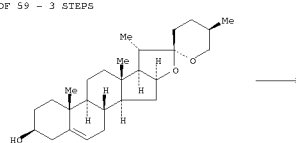
RX(26) OF 59 - 3 STEPS



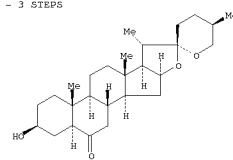
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(24) OF 59 - 3 STEPS

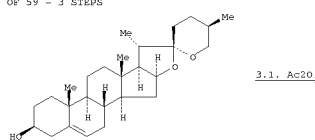


RX(24) OF 59 - 3 STEPS



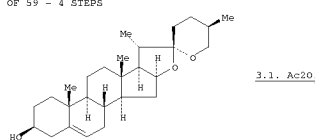
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RX(25) OF 59 - 3 STEPS

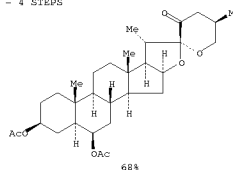


L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(27) OF 59 - 4 STEPS

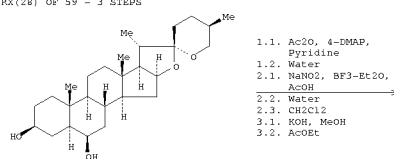


RX(27) OF 59 - 4 STEPS



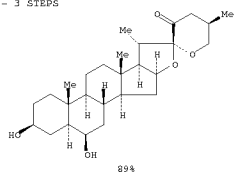
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RX(28) OF 59 - 3 STEPS



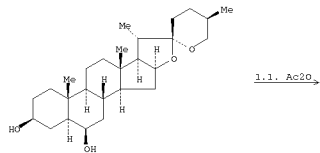
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(28) OF 59 - 3 STEPS

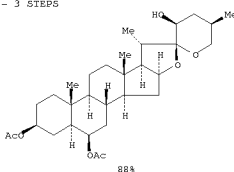


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RX(29) OF 59 - 3 STEPS



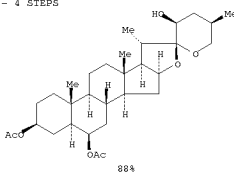
RX(29) OF 59 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

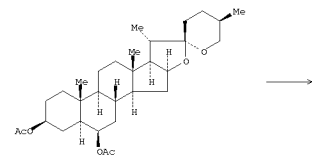
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(31) OF 59 - 4 STEPS

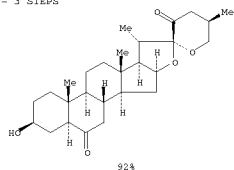


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RX(32) OF 59 - 3 STEPS



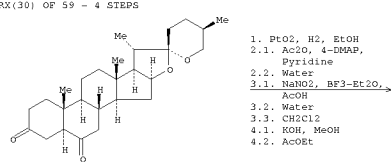
RX(32) OF 59 - 3 STEPS



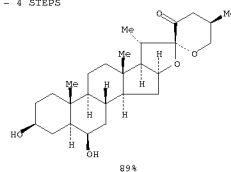
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(30) OF 59 - 4 STEPS

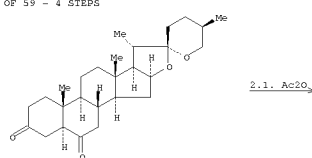


RX(30) OF 59 - 4 STEPS



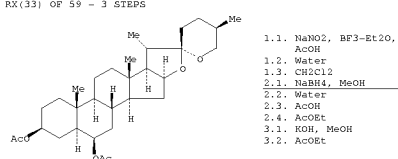
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RX(31) OF 59 - 4 STEPS

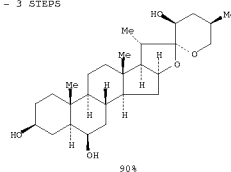


L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(33) OF 59 - 3 STEPS

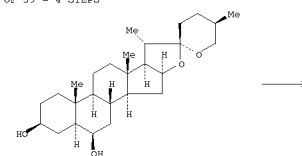


RX(33) OF 59 - 3 STEPS



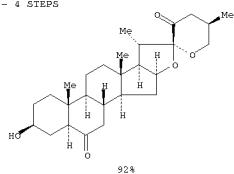
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RX(34) OF 59 - 4 STEPS



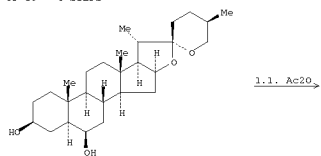
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(34) OF 59 - 4 STEPS



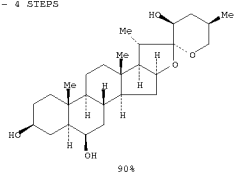
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RX(35) OF 59 - 4 STEPS



1.1. Ac2O

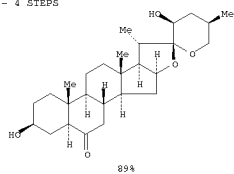
RX(35) OF 59 - 4 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

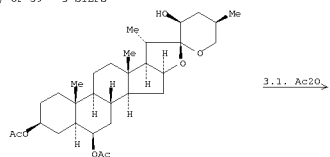
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(37) OF 59 - 4 STEPS



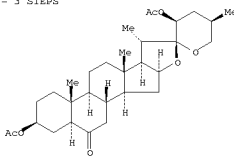
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RX(38) OF 59 - 3 STEPS



3.1. Ac2O

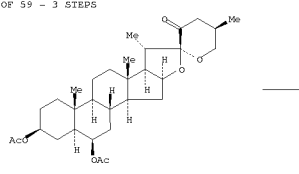
RX(38) OF 59 - 3 STEPS



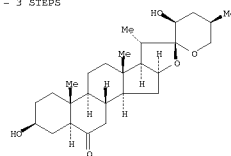
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(36) OF 59 - 3 STEPS

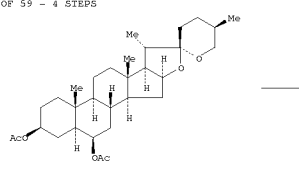


RX(36) OF 59 - 3 STEPS



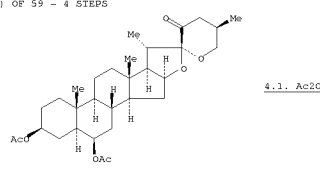
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RX(37) OF 59 - 4 STEPS



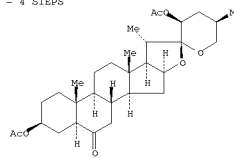
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(39) OF 59 - 4 STEPS



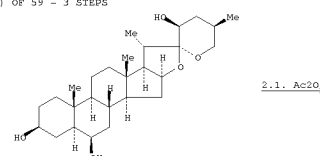
4.1. Ac2O

RX(39) OF 59 - 4 STEPS



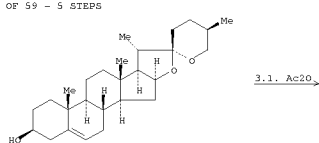
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RX(40) OF 59 - 3 STEPS

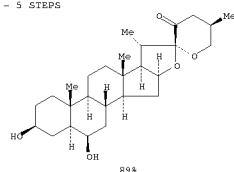


2.1. Ac2O

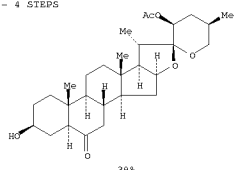
RX(42) OF 59 - 5 STEPS



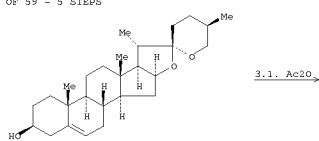
RX(42) OF 59 - 5 STEPS



RX(41) OF 59 - 4 STEPS

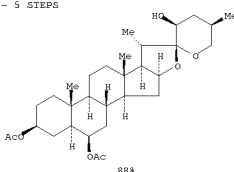


RX(43) OF S9 - 5 STEPS




16 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

PX(45) OF 59 - 5 STEPS

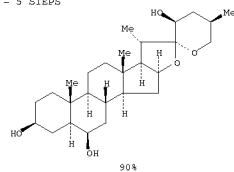
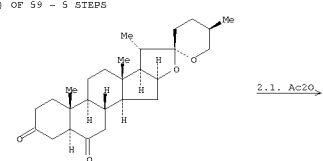


OF 59 - 5 STEPS

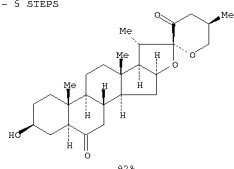


2.1. Ac<sub>2</sub>O

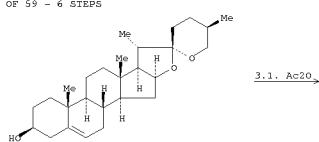
RX(45) OF 59 - 5 STEPS



RX(44) OF 59 - 5 STEPS

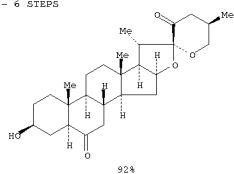


RX(46) OF 59 - 6 STEPS



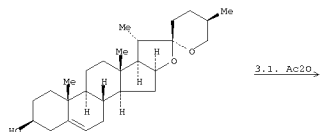
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(46) OF 59 - 6 STEPS



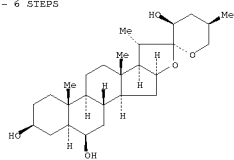
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

RX(47) OF 59 - 6 STEPS



3.1. Ac2O

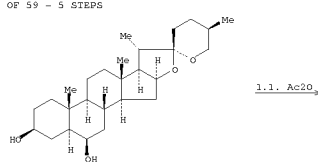
RX(47) OF 59 - 6 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

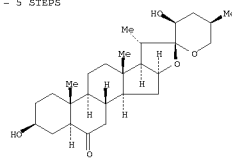
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(48) OF 59 - 5 STEPS



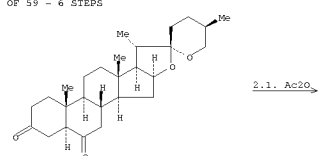
1.1. Ac2O

RX(48) OF 59 - 5 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

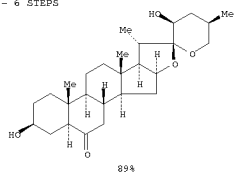
RX(49) OF 59 - 6 STEPS



2.1. Ac2O

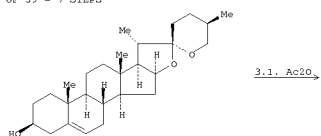
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(49) OF 59 - 6 STEPS



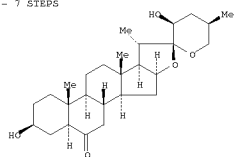
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

RX(50) OF 59 - 7 STEPS



3.1. Ac2O

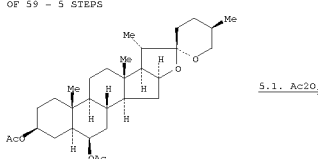
RX(50) OF 59 - 7 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective

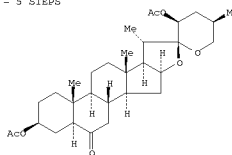
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(51) OF 59 - 5 STEPS



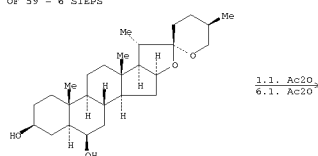
5.1. Ac2O

RX(51) OF 59 - 5 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

RX(52) OF 59 - 6 STEPS

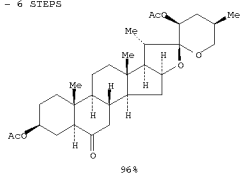


1.1. Ac2O

6.1. Ac2O

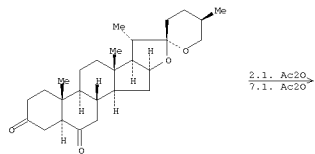
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(52) OF 59 - 6 STEPS

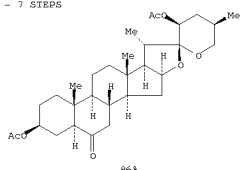


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

RX(53) OF 59 - 7 STEPS

2.1. Ac2O  
7.1. Ac2O

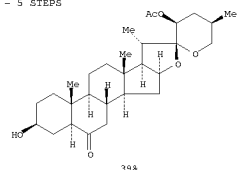
RX(53) OF 59 - 7 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective

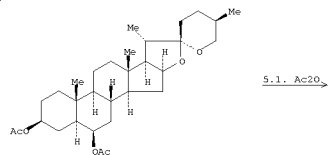
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(55) OF 59 - 5 STEPS



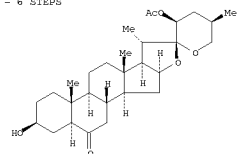
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

RX(56) OF 59 - 6 STEPS



5.1. Ac2O

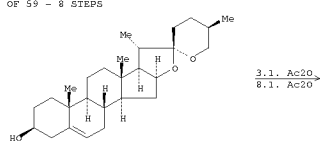
RX(56) OF 59 - 6 STEPS



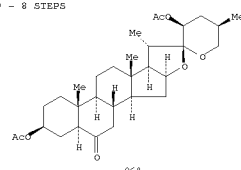
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(54) OF 59 - 8 STEPS

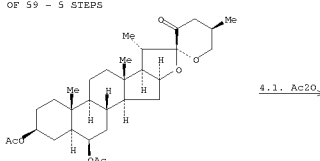
3.1. Ac2O  
8.1. Ac2O

RX(54) OF 59 - 8 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective, 8) stereoselective

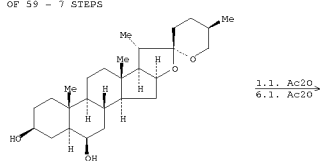
RX(55) OF 59 - 5 STEPS



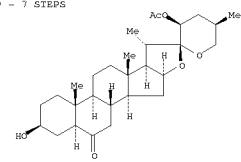
4.1. Ac2O

L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(57) OF 59 - 7 STEPS

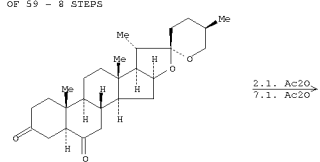
1.1. Ac2O  
6.1. Ac2O

RX(57) OF 59 - 7 STEPS



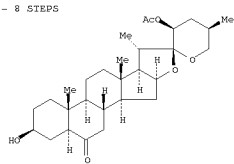
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective

RX(58) OF 59 - 8 STEPS

2.1. Ac2O  
7.1. Ac2O

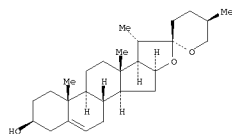
L6 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(58) OF 59 - 8 STEPS



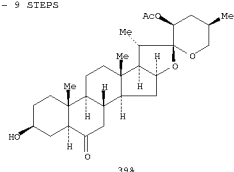
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective, 8) stereoselective

RX(59) OF 59 - 9 STEPS



3.1. Ac2O  
8.1. Ac2O

RX(59) OF 59 - 9 STEPS

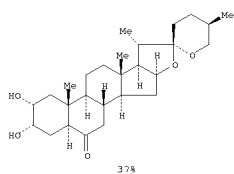


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective, 8) stereoselective, 9) stereoselective

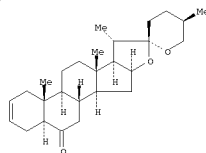
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(1) OF 3

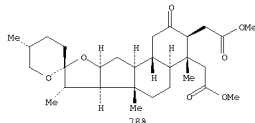


RX(3) OF 3 - 2 STEPS



1. KMnO4,  
PhCH2NEt3 Cl.  
CH2Cl2  
2. MeOH

RX(3) OF 3 - 2 STEPS



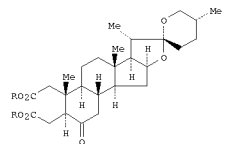
NOTE: 2) acid catalyst

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

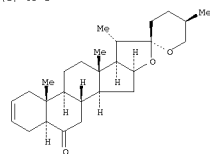
AN 134:163701 CASREACT

II Synthesis of A-seco-spirostan from diosgenin in catalysis conditions by phase transition  
AU Reyes-Gavilan, Hubert Anaya; Morales, Juan Enrique Tacoronte; Pedrosa, MariaTeresa Cabrera; Martinez, Carlos Perez; Molinet, Marleny Enriquez  
CS Universidad Pedagogica "Blas Roca Calderio" Manzanillo, Gramma, Cuba  
SO Revista CENIC, Ciencias Quimicas (2000), 31(2), 119-122  
CODEN: RCOQDH; ISSN: 1015-8553  
PB Centro Nacional de Investigaciones Cientificas  
DT Journal  
LA Spanish  
GI



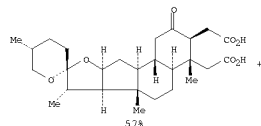
AB The oxidation of (25R)-spirost-2-en-6-one, obtained from diosgenin, with KMnO4 in aqueous-organic biphasic systems under phase transfer catalytic conditions afford (25R)-2a,3a-dihydroxyspirost-6-one, and A-seco-diacid [I; R = H (II)] in satisfactory yields. The preliminary biol. activity for II and its Me ester (I; R = Me) is also reported.

RX(1) OF 3



KMnO4, PhCH2NEt3 Cl.  
CH2Cl2

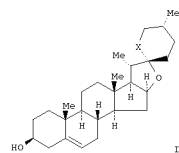
RX(1) OF 3



L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

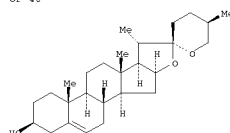
AN 134:131706 CASREACT

II New derivatives of the steroidal compounds solasodine and diosgenin. Part 2  
AU Irismetov, M. P.; Dzhiembaev, B. Zh.; Kharlamova, T. V.  
CS Inst. Khim. Nauk Im. A. B. Bekturova, MOH RK, Almaty, Kazakhstan  
SO Investiya Ministerstva Obranovaniya i Nauki Respubliki Kazakhstan, Natsional'noi Akademii Nauk Respubliki Kazakhstan, Seriya Khimicheskaya (2000), (2), 7-12  
CODEN: RNSRFR  
PB RIO VAK RK  
DT Journal  
LA Russian  
GI



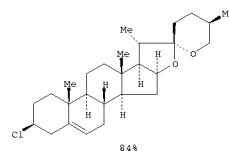
AB Through a succession of synthetic conversions starting from solasodine (I; X = NH) and diosgenin (I; X = O) the synthesis of brassinosteroids were carried out, exhibiting interest as regulators of plant germination.

RX(2) OF 40



SOCl2, CHCl3

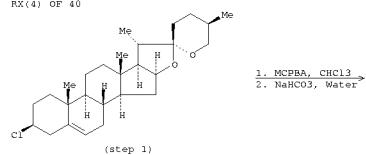
RX(2) OF 40



NOTE: stereoselective

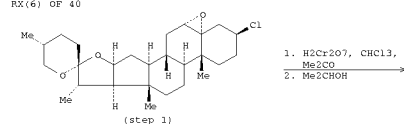
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(4) OF 40

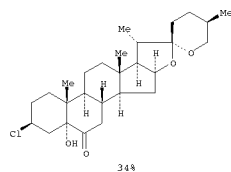


NOTE: stereoselective

RX(6) OF 40

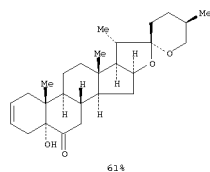


RX(6) OF 40



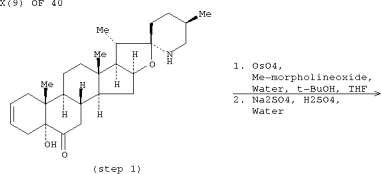
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(8) OF 40

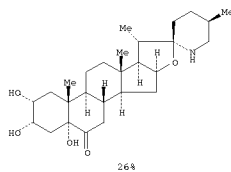


NOTE: regioselective

RX(9) OF 40



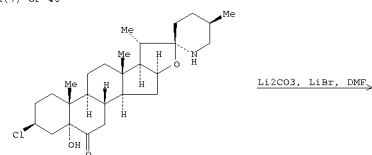
RX(9) OF 40



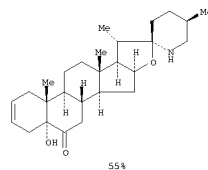
NOTE: stereoselective

L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(7) OF 40

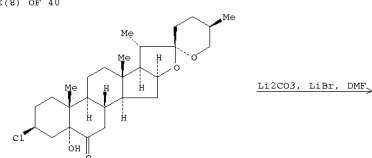


RX(7) OF 40



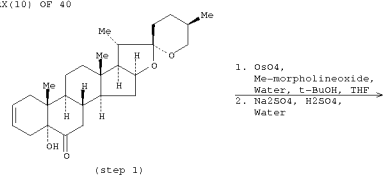
NOTE: regioselective

RX(8) OF 40

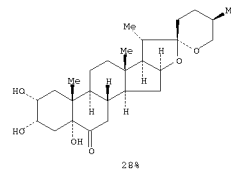


L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(10) OF 40

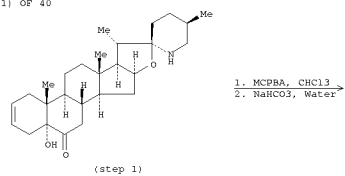


RX(10) OF 40



NOTE: stereoselective

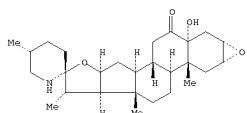
RX(11) OF 40





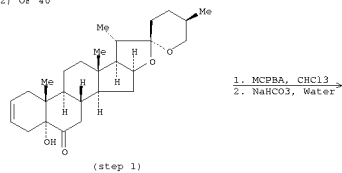
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(11) OF 40

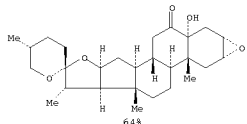


NOTE: stereoselective

RX(12) OF 40



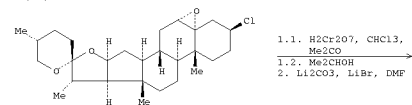
RX(12) OF 40



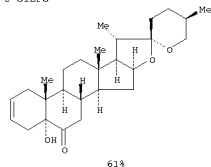
NOTE: stereoselective

L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(18) OF 40 - 2 STEPS

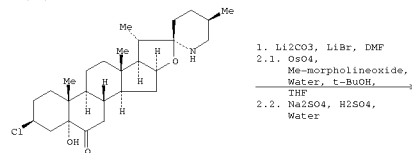


RX(18) OF 40 - 2 STEPS

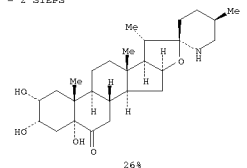


NOTE: 2) regioselective

RX(19) OF 40 - 2 STEPS



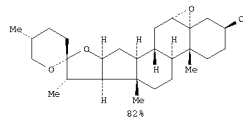
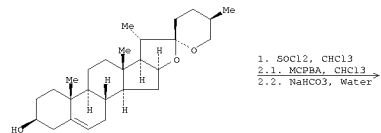
RX(19) OF 40 - 2 STEPS



NOTE: 1) regioselective, 2) stereoselective

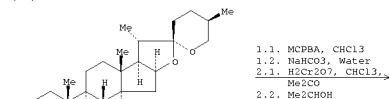
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(14) OF 40 - 2 STEPS

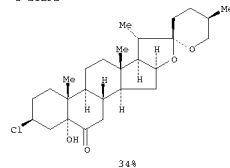


NOTE: 1) stereoselective, 2) stereoselective

RX(16) OF 40 - 2 STEPS



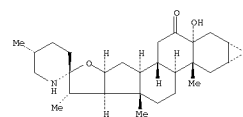
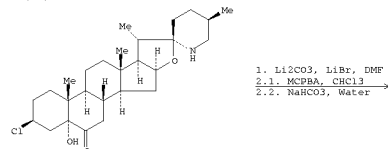
RX(16) OF 40 - 2 STEPS



NOTE: 1) stereoselective

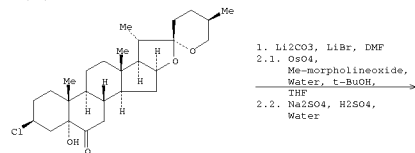
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(20) OF 40 - 2 STEPS

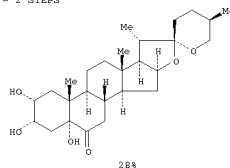


NOTE: 1) regioselective, 2) stereoselective

RX(21) OF 40 - 2 STEPS



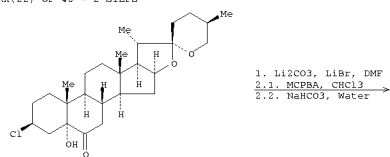
RX(21) OF 40 - 2 STEPS



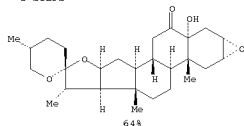
NOTE: 1) regioselective, 2) stereoselective

L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(22) OF 40 - 2 STEPS

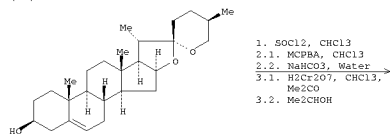


RX(22) OF 40 - 2 STEPS



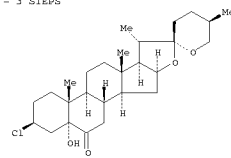
NOTE: 1) regioselective, 2) stereoselective

RX(24) OF 40 - 3 STEPS



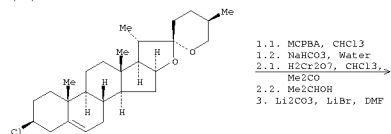
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(24) OF 40 - 3 STEPS

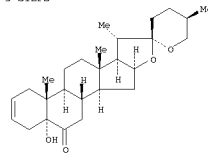


NOTE: 1) stereoselective, 2) stereoselective

RX(27) OF 40 - 3 STEPS



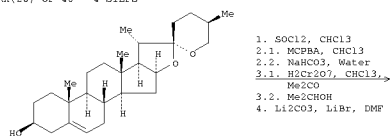
RX(27) OF 40 - 3 STEPS



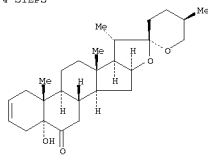
NOTE: 1) stereoselective, 3) regioselective

L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(28) OF 40 - 4 STEPS

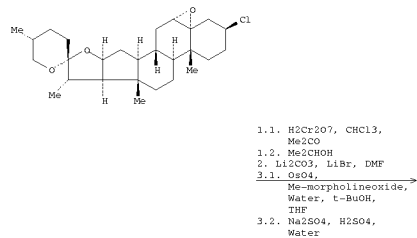


RX(28) OF 40 - 4 STEPS



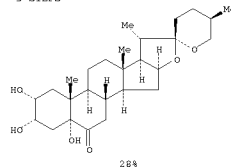
NOTE: 1) stereoselective, 2) stereoselective, 4) regioselective

RX(33) OF 40 - 3 STEPS



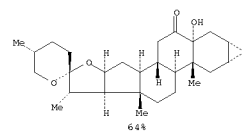
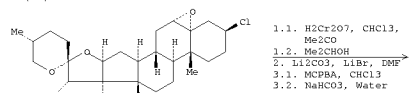
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(33) OF 40 - 3 STEPS



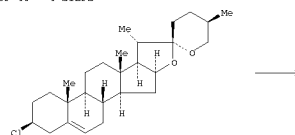
NOTE: 2) regioselective, 3) stereoselective

RX(34) OF 40 - 3 STEPS



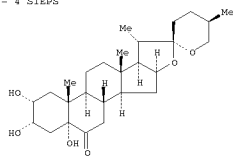
NOTE: 2) regioselective, 3) stereoselective

RX(35) OF 40 - 4 STEPS



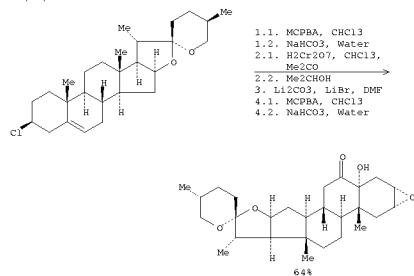
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(35) OF 40 - 4 STEPS



NOTE: 1) stereoselective, 3) regioselective, 4) stereoselective

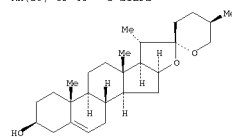
RX(36) OF 40 - 4 STEPS



NOTE: 1) stereoselective, 3) regioselective, 4) stereoselective

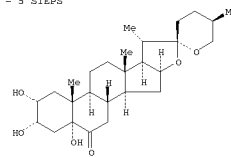
L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(39) OF 40 - 5 STEPS



1. SOCl<sub>2</sub>, CHCl<sub>3</sub>  
2.1. MCPBA, CHCl<sub>3</sub>  
2.2. NaHCO<sub>3</sub>, Water  
3.1. H<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>, CHCl<sub>3</sub>, Me<sub>2</sub>CO  
3.2. Me<sub>2</sub>CHOH  
4. Li<sub>2</sub>CO<sub>3</sub>, LiBr, DMF  
5.1. OsO<sub>4</sub>, Me-morpholineoxide, Water, t-BuOH,

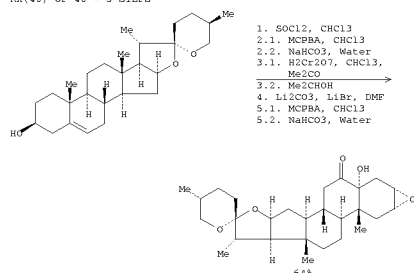
RX(39) OF 40 - 5 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 4) regioselective, 5) stereoselective

L6 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(40) OF 40 - 5 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 4) regioselective, 5) stereoselective

L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 133:350391 CASREACT

TI Synthesis of cytosstatic tetradecacyclic pyrazines and a novel reduction-oxidation sequence for spiroketal opening in sapogenins  
AU Basler, Siegfried; Brunck, Annette; Jautelat, Rolf; Winterfeldt, Ekkehard  
CS Institut für Physikochemie, Schering AG, Berlin, D-13342, Germany  
SO Helvetica Chimica Acta (2000), 83(8), 1854-1880  
CODEN: HCAVAV; ISSN: 0018-019X

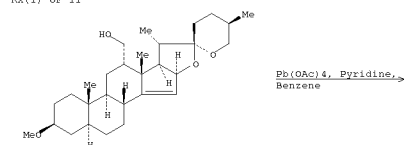
PB Verlag Helvetica Chimica Acta

DT Journal

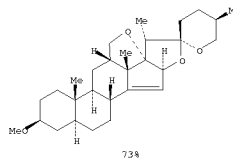
LA English

AB Aiming towards spiroketal-modified artificial cephalostatin mols., two orthogonal approaches were investigated. First, the introduction of 17-O-functionality into hecogenin derivs. with a closed spiroketal moiety was accomplished by different remote-oxidation procedures. These allowed the synthesis of tetradecacyclic artificial cephalostatin mols. with improved tumor-inhibiting properties. Second, a novel reduction-oxidation pathway for spiroketal opening in sapogenins was discovered, which should provide the basis for a broad access towards spiroketal-modified building blocks for cephalostatins.

RX(1) OF 11

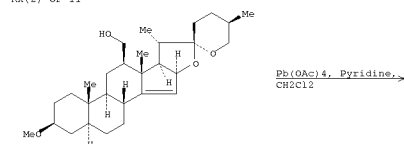


RX(1) OF 11



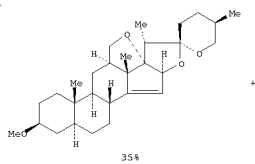
NOTE: photochem.

RX(2) OF 11

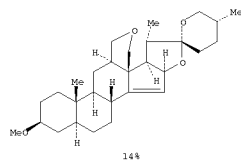


L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(2) OF 11

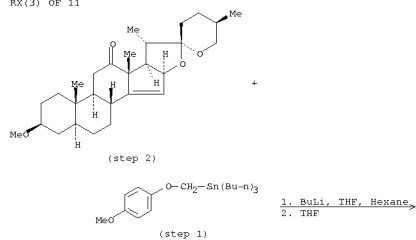


RX(2) OF 11



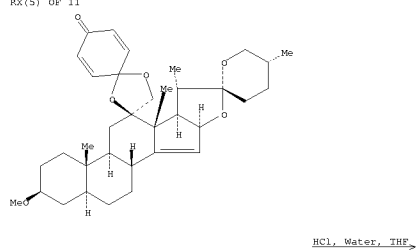
NOTE: photochem.

RX(3) OF 11

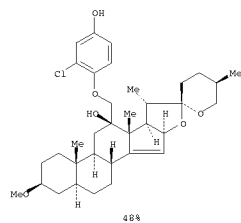


L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

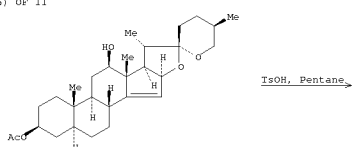
RX(5) OF 11



RX(5) OF 11

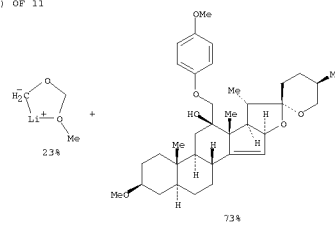


RX(6) OF 11



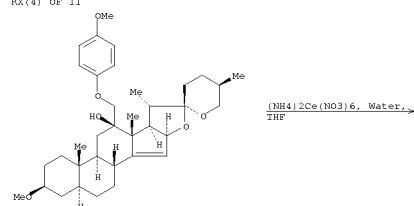
L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(3) OF 11

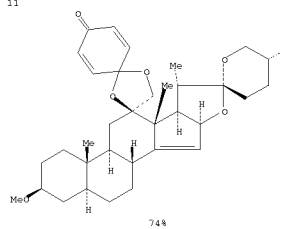


NOTE: stereoselective

RX(4) OF 11

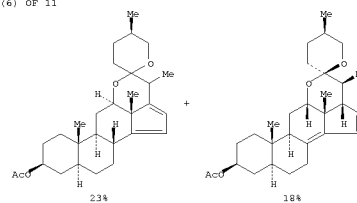


RX(4) OF 11

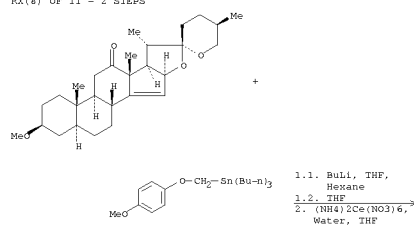


L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

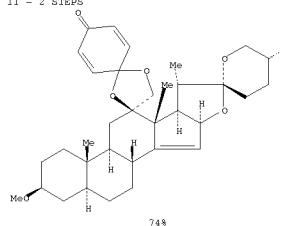
RX(6) OF 11



RX(8) OF 11 - 2 STEPS



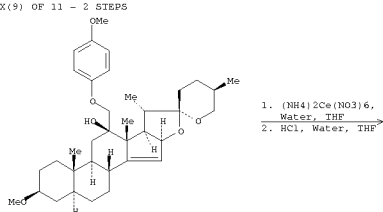
RX(8) OF 11 - 2 STEPS



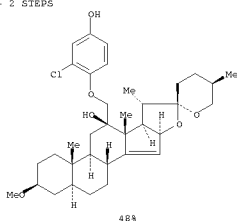
NOTE: 1) stereoselective

L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

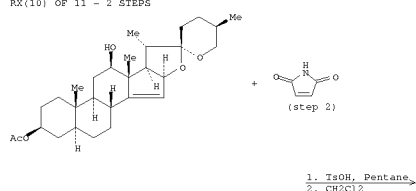
RX(9) OF 11 - 2 STEPS



RX(9) OF 11 - 2 STEPS

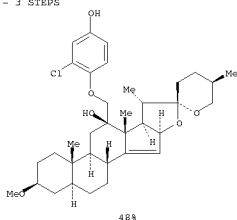


RX(10) OF 11 - 2 STEPS



L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(11) OF 11 - 3 STEPS

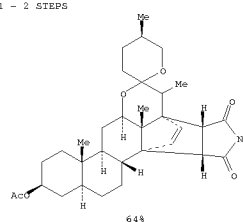


NOTE: 1) stereoselective

RE.CNT 76 THERE ARE 76 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

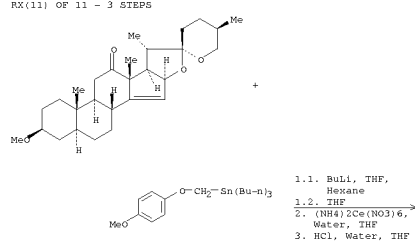
L6 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(10) OF 11 - 2 STEPS



NOTE: 2) stereoselective; 14 kbar

RX(11) OF 11 - 3 STEPS



L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 133:150781 CASREACT

TI Synthesis and spectroscopic characterization of 25(R)-2 $\beta$ ,3 $\alpha$ -AU dihydroxy-5 $\alpha$ -spirostan-12-one and its 12 $\alpha$ -oxalactone

Rodríguez, Caridad M. Robaina; Manchado, Francisco Coll; Rodiles, Isabel

Jomarrón; Martínez, Carlos S. Pérez; Becerra, Esther M. Alonso; Angulo,

Ileana Ramírez; Reyes-Gavilán, Hubert Anaya

CS Laboratorio de Productos Naturales, Facultad de Química, Universidad de la

Habana, Havana, 10400, Cuba

SO Revista CENIC, Ciencias Químicas (1999), 30(2), 107-110

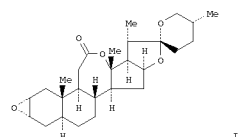
CODEN: RCCOER; ISSN: 1015-8553

PB Centro Nacional de Investigaciones Científicas

DI Journal

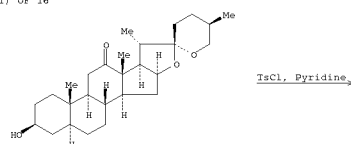
LA Spanish

GI



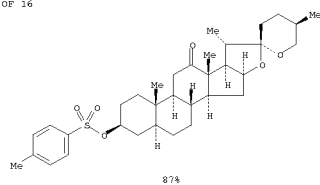
AB Preparation of brassinosteroid spirostanes, (25R)-2 $\beta$ ,3 $\alpha$ -dihydroxy-5 $\alpha$ -spirostan-12-one and (25R)-2 $\beta$ ,3 $\alpha$ -dihydroxy-C-homo-12 $\alpha$ -oxa-5 $\alpha$ -spirostan-12-one starting from hecogenin was described. The oxidation with Cornforth's reagent yield gave (25R)-2 $\beta$ ,3 $\alpha$ -dihydroxy-5 $\alpha$ -spirostan-12-one in 61%. Using m-chloroperoxybenzoic acid, the simultaneous functioning of rings A and C was achieved obtaining 2 $\alpha$ ,3 $\alpha$ -epoxy-12 $\alpha$ -oxalactone I in 71% yield. During the cleavage of oxirane ring, of this epoxylactone with perchloric acid in acetone, (25R)-2 $\beta$ ,3 $\alpha$ -dihydroxy-C-homo-12 $\alpha$ -oxa-5 $\alpha$ -spirostan-12-one in 65% yield was obtained.

RX(1) OF 16

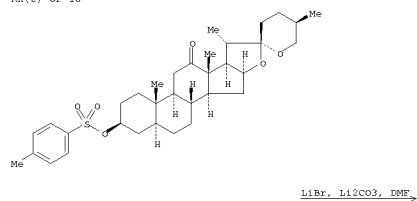


L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

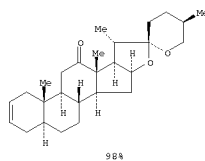
RX(1) OF 16



RX(2) OF 16



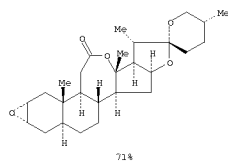
RX(2) OF 16



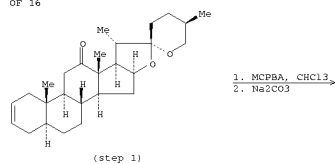
NOTE: reflux

L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

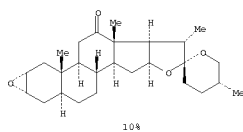
RX(4) OF 16



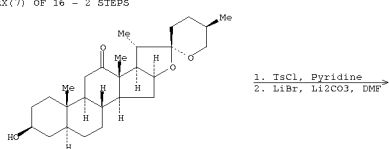
RX(5) OF 16



RX(5) OF 16

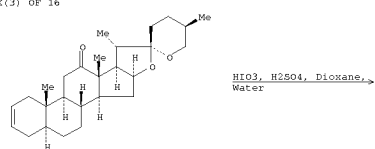


RX(7) OF 16 - 2 STEPS

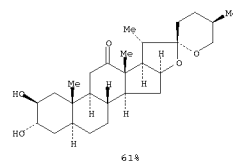


L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

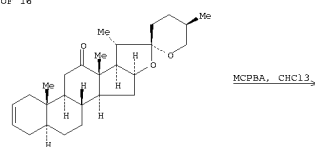
RX(3) OF 16



RX(3) OF 16

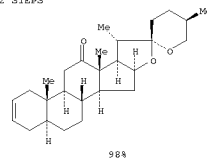


RX(4) OF 16



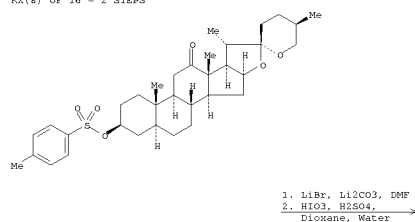
L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(7) OF 16 - 2 STEPS

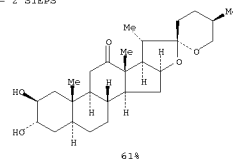


NOTE: 2) reflux

RX(8) OF 16 - 2 STEPS



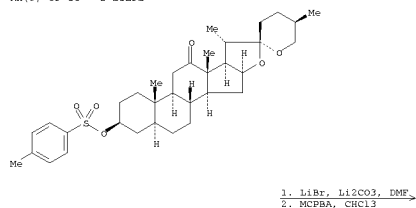
RX(8) OF 16 - 2 STEPS



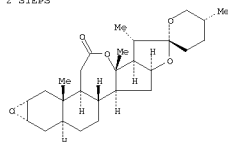
NOTE: 1) reflux

L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(9) OF 16 - 2 STEPS

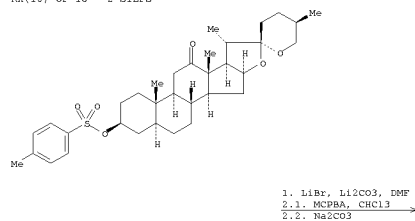


RX(9) OF 16 - 2 STEPS



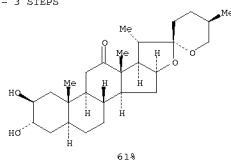
NOTE: 1) reflux

RX(10) OF 16 - 2 STEPS



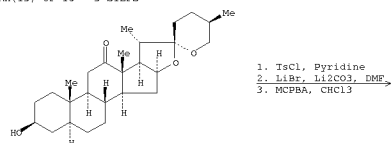
L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(12) OF 16 - 3 STEPS

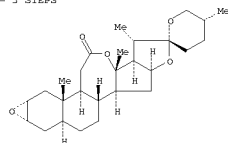


NOTE: 2) reflux

RX(13) OF 16 - 3 STEPS

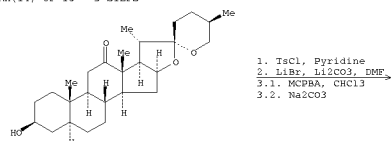


RX(13) OF 16 - 3 STEPS



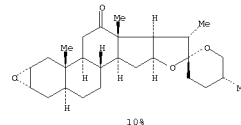
NOTE: 2) reflux

RX(14) OF 16 - 3 STEPS



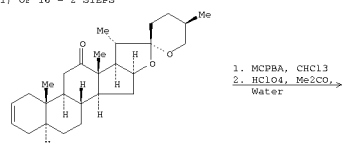
L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(10) OF 16 - 2 STEPS

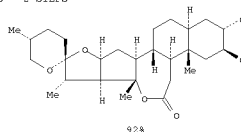


NOTE: 1) reflux

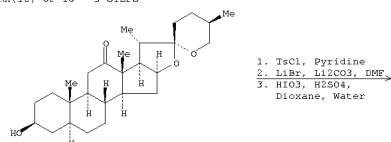
RX(11) OF 16 - 2 STEPS



RX(11) OF 16 - 2 STEPS

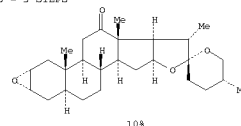


RX(12) OF 16 - 3 STEPS



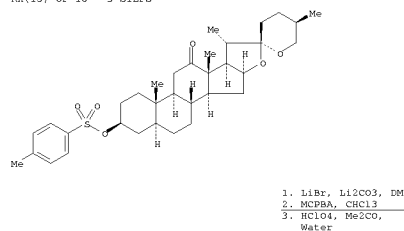
L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(14) OF 16 - 3 STEPS

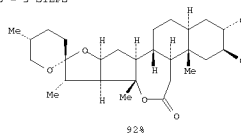


NOTE: 2) reflux

RX(15) OF 16 - 3 STEPS



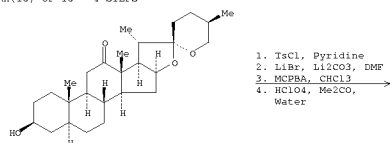
RX(15) OF 16 - 3 STEPS



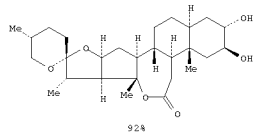
NOTE: 1) reflux

L6 ANSWER 15 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(16) OF 16 - 4 STEPS



RX(16) OF 16 - 4 STEPS



NOTE: 2) reflux

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 16 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 130:125271 CASREACT

TI Simple and convenient method for the synthesis of A<sup>9</sup>(11)-3-hydroxy, Δ<sup>1,4</sup>- and Δ<sup>1,4,9</sup>(11)-3-ketosteroids by selective

dehydrogenation of 3-hydroxy-12-ketosteroids

AU Kongkathip, Boonsong; Kongkathip, Ngampong; Khunnavutinantum, Ponsak; Saket, Uthai

CS Department of Chemistry, Faculty of Science, Kasetsart University, Bangkok, 10900, Thailand

SO Chemistry Letters (1998), (12), 1207-1208

CODEN: CMLTAG; ISSN: 0366-7022

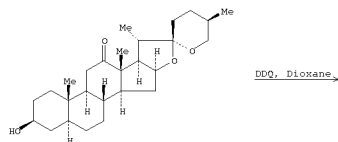
PB Chemical Society of Japan

DT Journal

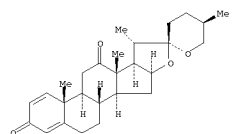
LA English

AB Hecogenin can be selectively dehydrogenated to the corresponding A<sup>9</sup>(11)-3-hydroxysteroid, Δ<sup>1,4</sup>- and Δ<sup>1,4,9</sup>(11)-3-ketosteroids by the treatment of 2,3-dichloro-5,6-dicyanobenzoquinone (DDQ) with a variety of solvents.

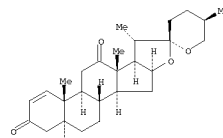
RX(1) OF 3



RX(1) OF 3



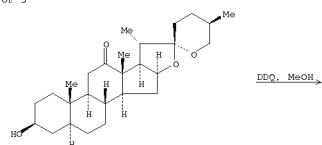
RX(1) OF 3



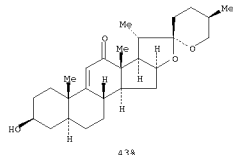
NOTE: 38% overall

L6 ANSWER 16 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(2) OF 3

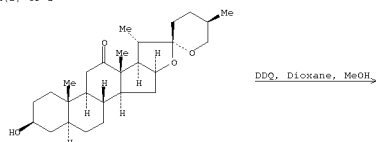


RX(2) OF 3

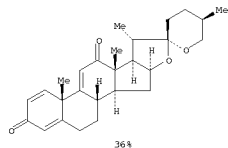


NOTE: 38% overall

RX(3) OF 3



RX(3) OF 3



NOTE: 38% overall

L6 ANSWER 16 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT



L6 ANSWER 17 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 129:192548 CASREACT

TI Sound absorbing and heat insulating materials and their manufacture  
 IN Machino, Fumikazu; Higo, Tsuyoshi; Kataoka, Toshinobu; Onoue, Ryoichi;  
 Date, Toshio; Sato, Tominori  
 PA Osaka Gas Co., Ltd., Japan  
 SO PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2

DT Patent

LA Japanese

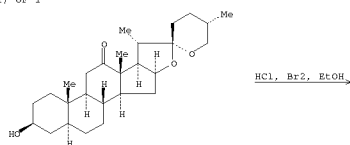
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO-----9838140	A1	19980903	1997WO-JP0000598	19970227
W: JP, US				
RW: AT, SE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP-----963964	A1	19991215	1997EP-000905419	19970227
EP-----963964	B1	20031210		
R: DE, FR, GB				
JP-----2009479	B2	20000214	1998JP-000537490	19970227
US-----6855398	B1	20050215	1999US-000180432	19990212

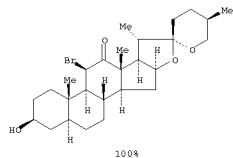
PRAI 1997WO-JP0000598 19970227

AB The sound absorbing and heat insulating material comprises carbon fiber as its constituent material and have good durability and compression recovering property, lightweight, fire resistance, and non-elec. corrosion resistance. The materials are composed of carbon fibers having an average diameter of 0.5-5  $\mu$ m and have an average fiber length of 1-15 mm which are bonded by a thermosetting resin. A galvanic cell comprising the sound absorbing and heat insulating material, as one of electrodes, an aluminum plate as the other of electrodes, and an electrolyte, which comprises a water solution having sodium chloride of 0.45 weight %, has a galvanic current of  $\leq 10$   $\mu$ A.

RX(1) OF 1



RX(1) OF 1



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 18 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 129:41308 CASREACT

TI Synthesis of (22R, 25R)-2a,3a,26-trihydroxy-5a-furostan-6-one

AU Arteaga, Martin A. Iglesias; Gil, Roxana Perez; Lara, Vivian Leliebre;

CS Laboratorio de Productos Naturales, Facultad de Quimica, Universidad de la

Havana, Zapata y G. C. Habana, 10 400, Cuba

SO Synthetic Communications (1998), 28(10), 1779-1784

CODEN: SYMCAV, ISSN: 0039-7911

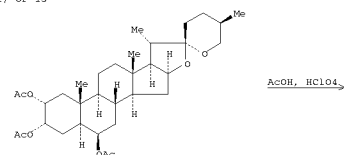
PB Marcel Dekker, Inc.

DT Journal

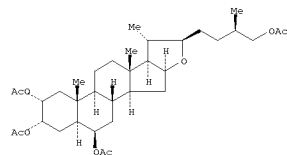
LA English

AB The synthesis of a plant growth promoter furostanol which bears the characteristic functionality of castasterone on rings A and B is described.

RX(1) OF 15

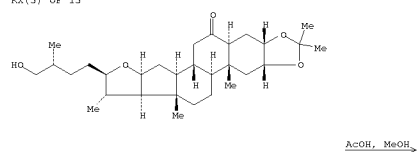


RX(1) OF 15



NOTE: 4 H, OXIDE

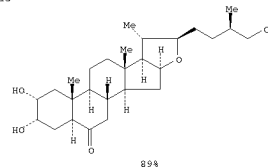
RX(5) OF 15



L6 ANSWER 18 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

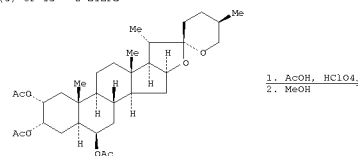
(Continued)

RX(5) OF 15

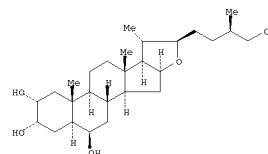


NOTE: 30 MIN, WATER

RX(6) OF 15 - 2 STEPS



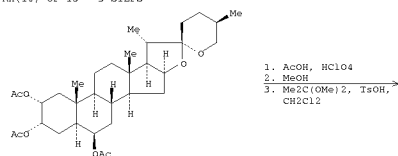
RX(6) OF 15 - 2 STEPS



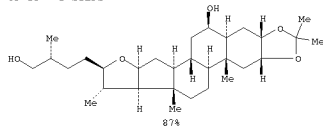
NOTE: 1) 4 H, OXIDE, 2) 30 MIN, HYDROXIDE

L6 ANSWER 18 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(10) OF 15 - 3 STEPS

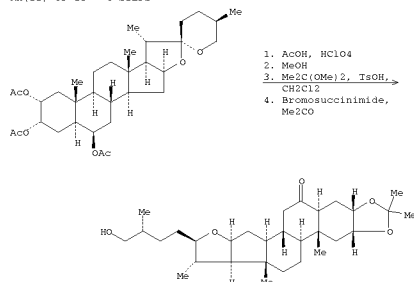


RX(10) OF 15 - 3 STEPS



NOTE: 1) 4 H, OXIDE, 2) 30 MIN, HYDROXIDE, 3) 1 H

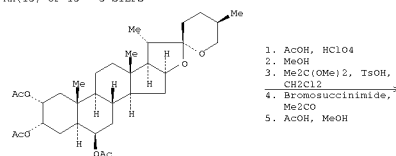
RX(12) OF 15 - 4 STEPS



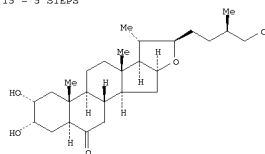
NOTE: 1) 4 H, OXIDE, 2) 30 MIN, HYDROXIDE, 3) 1 H, 4) 45 MIN

L6 ANSWER 18 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(15) OF 15 - 5 STEPS



RX(15) OF 15 - 5 STEPS

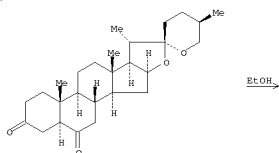


NOTE: 1) 4 H, OXIDE, 2) 30 MIN, HYDROXIDE, 3) 1 H, 4) 45 MIN, 5) 30 MIN, WATER

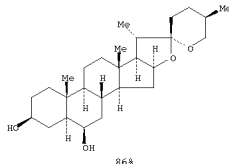
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
AN 129:16282 CASREACT  
TI Synthesis of (22R, 25R)-3β, 26-dihydroxy-5α-furostan-6-one  
AU Arteaga, Martin A. Iglesias; Gil, Roxana Perez; Lara, Vivian Leliebre; Martinez, Carlos S. Perez; Manchado, Francisco Coll; Perez, Aristides Rosado; Rios, Luis Pozo  
CS Laboratorio de Productos Naturales, Facultad de Química, Universidad de La Habana, Zapata y G. C., Havana, 10 400, Cuba  
SO Synthetic Communications (1998), 28(8), 1381-1386  
CODEN: SYMCAV, ISSN: 0039-7911  
PB Marcel Dekker, Inc.  
DT Journal  
LA English  
AB The synthesis of a plant growth promoter furostanol which bears the characteristic functionality of teasterone on rings A and B is described.

RX(1) OF 7

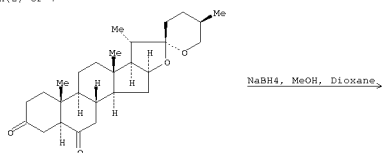


RX(1) OF 7



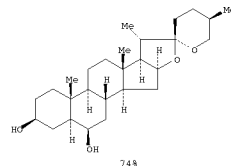
NOTE: 4 H, OXIDE H2

RX(2) OF 7



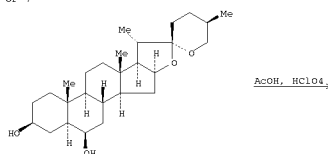
L6 ANSWER 19 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(2) OF 7

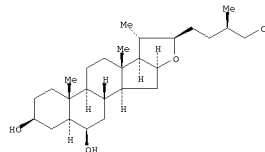


NOTE: 30 MIN, 10.deg.

RX(3) OF 7



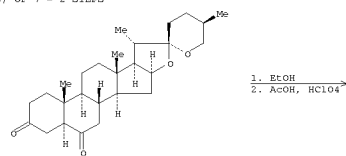
RX(3) OF 7



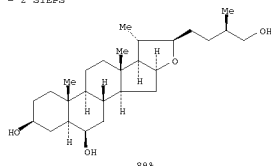
NOTE: 4 H, 10.deg., 1 ATM, OXIDE H2

L6 ANSWER 19 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(5) OF 7 - 2 STEPS

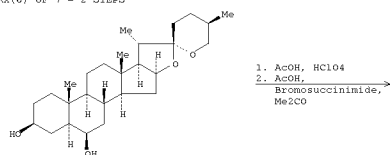


RX(5) OF 7 - 2 STEPS



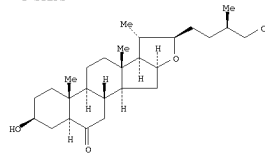
NOTE: 1) 4 H, OXIDE H2, 2) 4 H, 10.deg., 1 ATM, OXIDE H2

RX(6) OF 7 - 2 STEPS



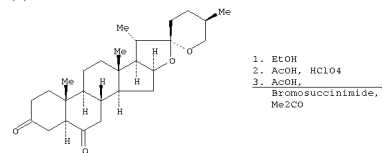
L6 ANSWER 19 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(6) OF 7 - 2 STEPS

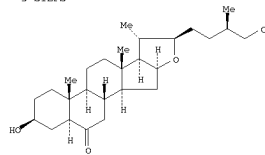


NOTE: 1) 4 H, 10.deg., 1 ATM, OXIDE H2, 2) 45 MIN, 10.deg.

RX(7) OF 7 - 3 STEPS



RX(7) OF 7 - 3 STEPS



NOTE: 1) 4 H, OXIDE H2, 2) 4 H, 10.deg., 1 ATM, OXIDE H2, 3) 45 MIN, 10.deg.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN

AN 128:115124 CASREACT

TI Interphylal Product Splicing: The First Total Syntheses of Cephalostatin 1, the North Hemisphere of Ritterazine G, and the Highly Active Hybrid Analog, Ritterostatin GN1N

AU LaCour, Thomas G.; Guo, Chuangxing; Bhandaru, Sudhakar; Fuchs, P. L.;

BOYD, Michael R.

CS Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA

SO Journal of the American Chemical Society (1998), 120(4), 692-707

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

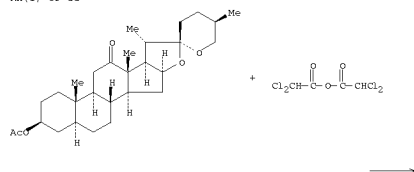
LA English

GI

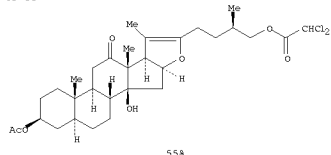
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Convergent total syntheses of the extremely potent cell growth inhibitor cephalostatin 1 and two hybrid analogs, ritterostatins GN1N (I) and GN1S (II), have been achieved. I is highly active in the 60 cell line human tumor panel of the National Cancer Institute. The North hemisphere of ritterazine G was efficiently constructed from hecogenin acetate in 15% yield over 13 steps. Extension of a key photolysis/Prins sequence to intermediates (III) and (IV) proceeded in excellent yield, leading to installation of the  $\Delta^{14}$  moiety in the North G and South 1 steroidal subunits as an application of a method for directed unsym. coupling of the cephalostatin and ritterazine components.

RX(1) OF 55

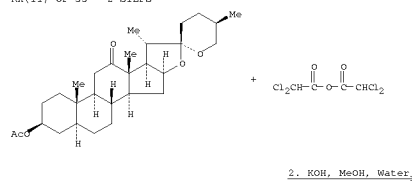


RX(1) OF 55

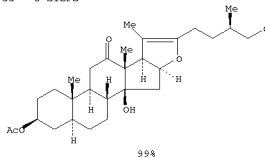


L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

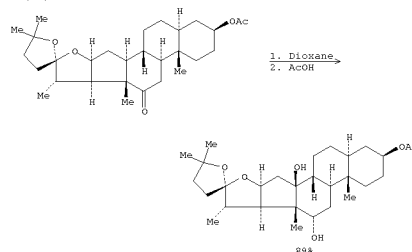
RX(11) OF 55 - 2 STEPS



RX(11) OF 55 - 2 STEPS



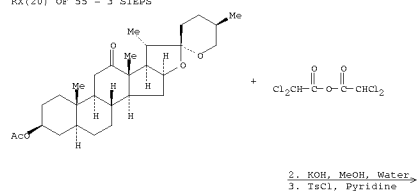
RX(12) OF 55 - 2 STEPS



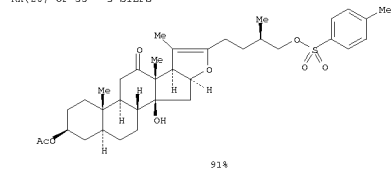
NOTE: 1) photochem.

L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

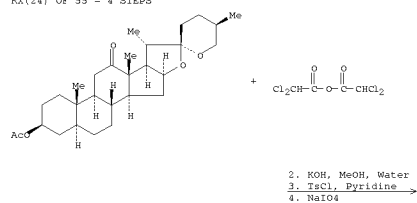
RX(20) OF 55 - 3 STEPS



RX(20) OF 55 - 3 STEPS

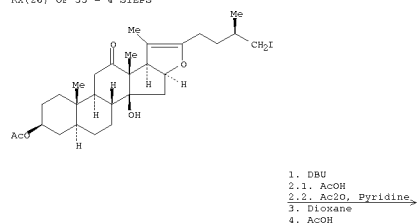


RX(24) OF 55 - 4 STEPS

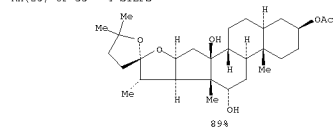


L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(26) OF 55 - 4 STEPS

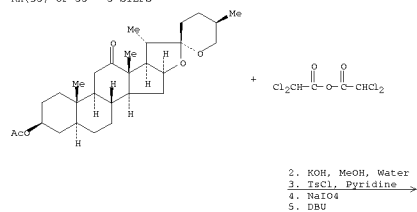


RX(26) OF 55 - 4 STEPS



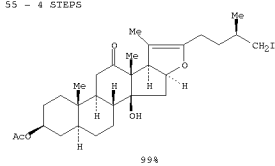
NOTE: 3) photochem.

RX(35) OF 55 - 5 STEPS

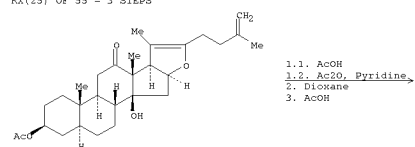


L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

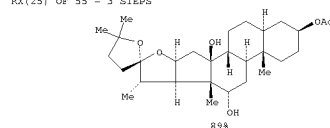
RX(24) OF 55 - 4 STEPS



RX(25) OF 55 - 3 STEPS



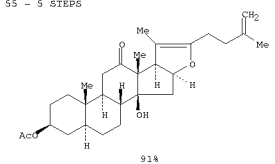
RX(25) OF 55 - 3 STEPS



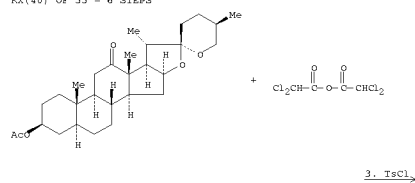
NOTE: 2) photochem.

L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

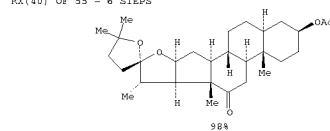
RX(35) OF 55 - 5 STEPS



RX(40) OF 55 - 6 STEPS

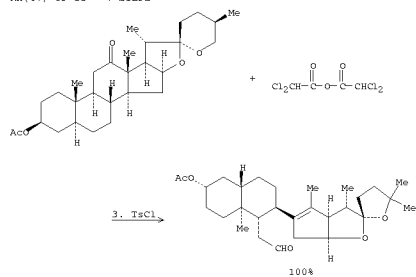


RX(40) OF 55 - 6 STEPS



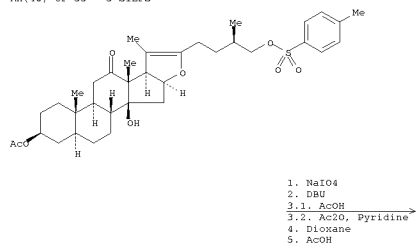
L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(47) OF 55 - 7 STEPS



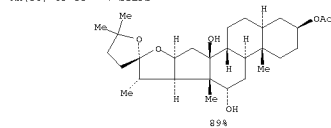
NOTE: 7) photochem.

RX(48) OF 55 - 5 STEPS



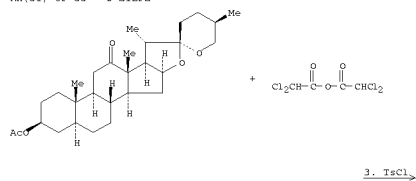
L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(50) OF 55 - 7 STEPS

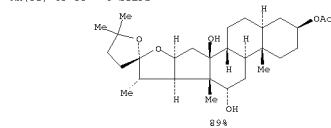


NOTE: 6) photochem.

RX(51) OF 55 - 8 STEPS



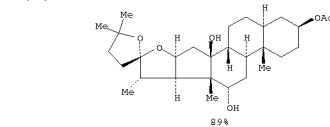
RX(51) OF 55 - 8 STEPS



NOTE: 7) photochem.

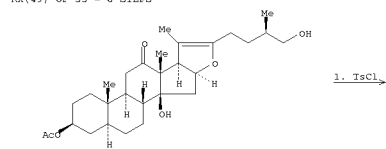
L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(48) OF 55 - 5 STEPS

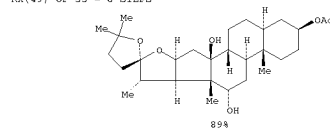


NOTE: 4) photochem.

RX(49) OF 55 - 6 STEPS

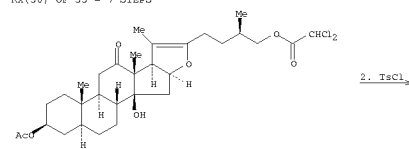


RX(49) OF 55 - 6 STEPS



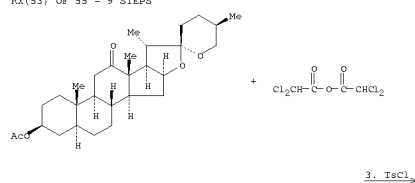
NOTE: 5) photochem.

RX(50) OF 55 - 7 STEPS

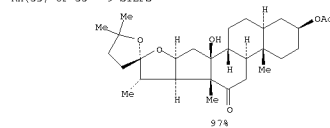


L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(53) OF 55 - 9 STEPS

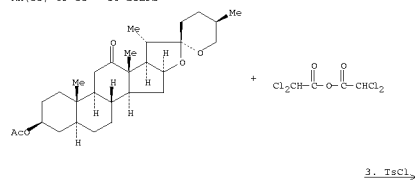


RX(53) OF 55 - 9 STEPS

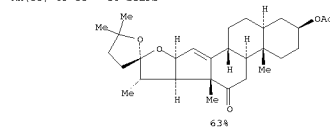


NOTE: 7) photochem.

RX(55) OF 55 - 10 STEPS



RX(55) OF 55 - 10 STEPS



NOTE: 7) photochem.

L6 ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE.CNT 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 21 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 126:8365 CASREACT

TI An Efficient Protocol for the Synthesis of Unsymmetrical Pyrazines. Total  
Synthesis of Dihydrocephalostatin 1

AU Guo, Chuangping; Bhandaru, Sudhakar; Fuchs, P. L.; Boyd, Michael R.  
CS Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA  
SO Journal of the American Chemical Society (1996), 118(43),  
10672-10673

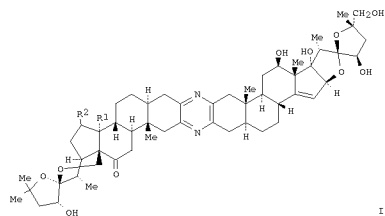
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

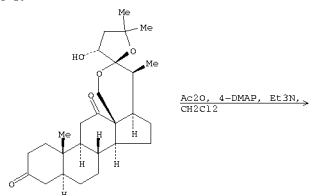
GI



AB Reaction of a 1:1 mixture of an  $\alpha$ -aminomethoxime and an  $\alpha$ -aridoketone together with either polyvinylpyridine or Nafion-H in the presence of 10 mol% dibutyltinchloride in benzene at reflux affords unsym. pyrazines in very good yield. The new method provides substantially higher yields of unsym. pyrazines than the Heathcock-Smith pyrazine synthesis. The present communication details the application of our method to the synthesis of a C14'-15' dihydro analog I (R1 = R2 = H) of the exceptionally potent trisdecacyclic pyrazine anticancer agent cephalostatin 1 (I; R1R2 = bond). Testing of compound I (R1 = R2 = H) at the National Cancer Institute revealed that the differential cytotoxicity profile and potency of I (R1 = R2 = H) closely approximated those of the natural reference compound I (R1R2 = bond).

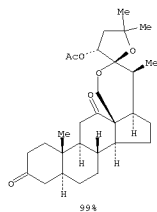
RX(4) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(5) OF 39



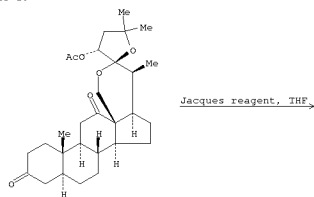
L6 ANSWER 21 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(5) OF 39

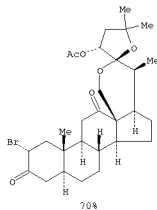


NOTE: stereoselective

RX(6) OF 39



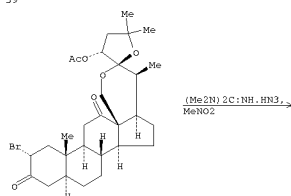
RX(6) OF 39



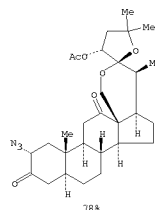
NOTE: stereoselective

L6 ANSWER 21 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(7) OF 39



RX(7) OF 39

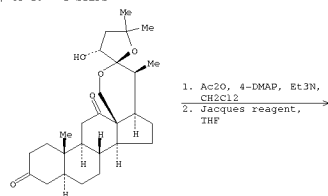


NOTE: stereoselective

RX(10) OF 39 - REACTION DIAGRAM NOT AVAILABLE

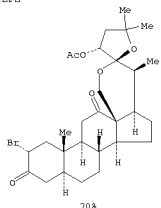
RX(12) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(13) OF 39 - 2 STEPS



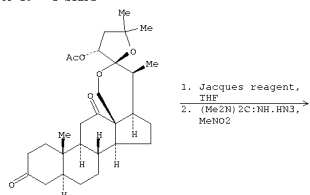
L6 ANSWER 21 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(13) OF 39 - 2 STEPS

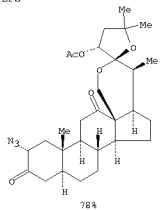


NOTE: 1) stereoselective, 2) stereoselective

RX(14) OF 39 - 2 STEPS



RX(14) OF 39 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

L6 ANSWER 21 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(28) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(29) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(30) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(31) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(32) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(33) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(34) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(35) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(36) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(37) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(38) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(39) OF 39 - REACTION DIAGRAM NOT AVAILABLE  
 RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

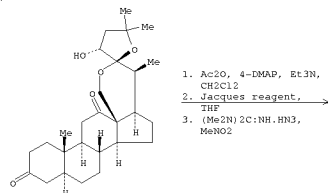
L6 ANSWER 21 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(15) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(17) OF 39 - REACTION DIAGRAM NOT AVAILABLE

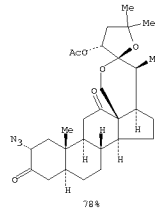
RX(18) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(19) OF 39 - 3 STEPS



1. Ac<sub>2</sub>O, 4-DMAP, Et<sub>3</sub>N,  
 CH<sub>2</sub>Cl<sub>2</sub>  
 2. Jacques reagent,  
 THF  
 3. (Me<sub>2</sub>N)<sub>2</sub>C:NH.HN<sub>3</sub>,  
 MeNO<sub>2</sub>

RX(19) OF 39 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RX(20) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(21) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(22) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(23) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(24) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(25) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(26) OF 39 - REACTION DIAGRAM NOT AVAILABLE

RX(27) OF 39 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 124:30119 CASREACT

II Cephalostatin chemistry. 8. Synthesis of a C14,15' dihydro derivative of the south hexacyclic steroid unit of cephalostatin 1. Part II. Spiroketal synthesis and stereochemical assignment by NMR spectroscopy

AU Bhandaru, Sudhakar; Fuchs, P. L.

CS Dep. Chem., Purdue Univ., West Lafayette, IN, 47907, USA

SO Tetrahedron Letters (1995), 36(46), 8351-4

CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier

DT Journal

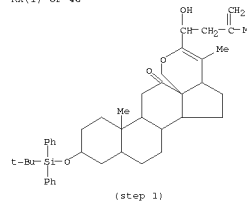
LA English

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Transformation of aldehyde I into II, a C14,15' dihydro analog of the "South" hexacyclic spiroketal of cephalostatin 1 is described. The stereochem. of II was elucidated by NMR spectroscopy.

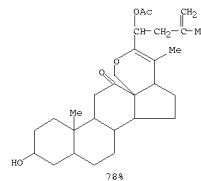
RX(1) OF 46



(step 1)

1. Ac<sub>2</sub>O, Et<sub>3</sub>N, 4-DMAP,  
 CH<sub>2</sub>Cl<sub>2</sub>  
 2. Bu<sub>4</sub>N.F, THF

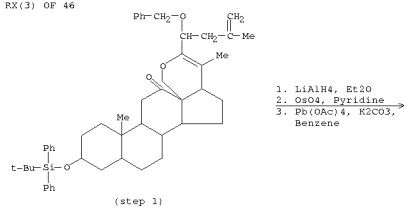
RX(1) OF 46



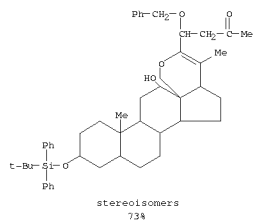
704

L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

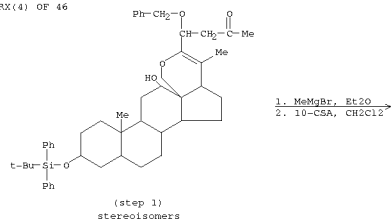
RX(3) OF 46



RX(3) OF 46

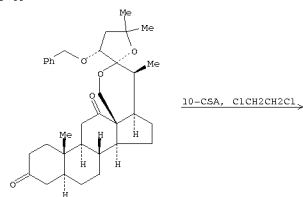


RX(4) OF 46

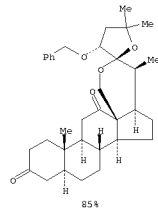


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

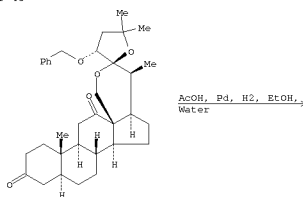
RX(6) OF 46



RX(6) OF 46

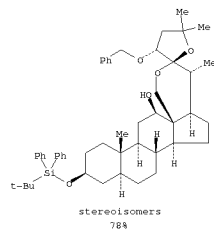


RX(7) OF 46

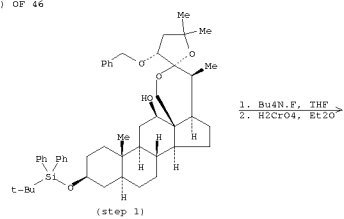


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

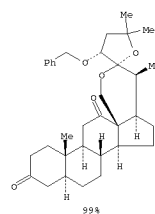
RX(4) OF 46



RX(5) OF 46

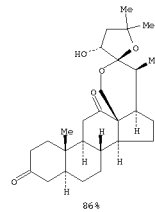


RX(5) OF 46

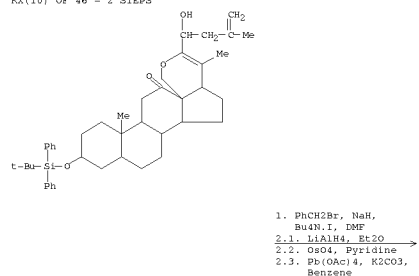


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

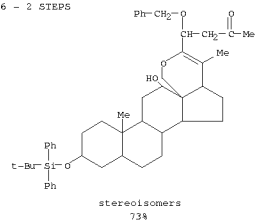
RX(7) OF 46



RX(10) OF 46 - 2 STEPS



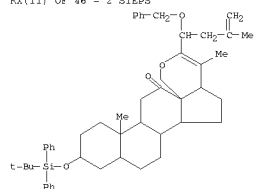
RX(10) OF 46 - 2 STEPS





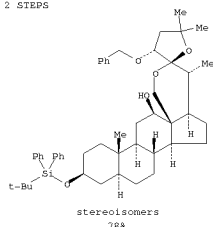
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(11) OF 46 - 2 STEPS



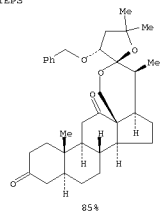
1.1. LiAlH<sub>4</sub>, Et<sub>2</sub>O  
 1.2. OsO<sub>4</sub>, Pyridine  
1.3. Ph(OAc)<sub>4</sub>, K<sub>2</sub>CO<sub>3</sub>, Benzene  
 2.1. MeMgBr, Et<sub>2</sub>O  
 2.2. 10-CSA, CH<sub>2</sub>Cl<sub>2</sub>

RX(11) OF 46 - 2 STEPS

stereoisomers  
78%

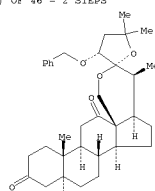
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(13) OF 46 - 2 STEPS



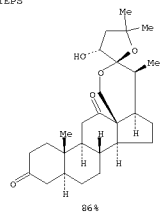
85%

RX(14) OF 46 - 2 STEPS



1. 10-CSA, C<sub>1</sub>H<sub>2</sub>CH<sub>2</sub>Cl  
 2. AcOH, Pd, H<sub>2</sub>, EtOH, Water

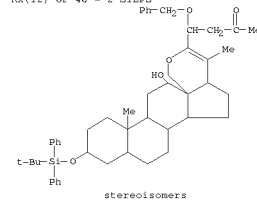
RX(14) OF 46 - 2 STEPS



86%

L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

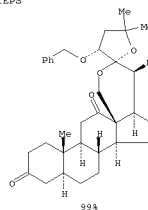
RX(12) OF 46 - 2 STEPS



stereoisomers

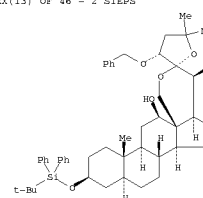
1.1. MeMgBr, Et<sub>2</sub>O  
 1.2. 10-CSA, CH<sub>2</sub>Cl<sub>2</sub>  
 2.1. Bu<sub>4</sub>N.F, THF  
 2.2. H<sub>2</sub>CrO<sub>4</sub>, Et<sub>2</sub>O

RX(12) OF 46 - 2 STEPS



99%

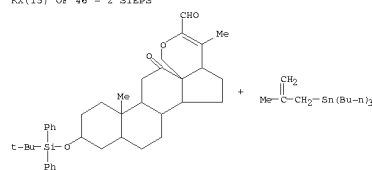
RX(13) OF 46 - 2 STEPS



1.1. Bu<sub>4</sub>N.F, THF  
 1.2. H<sub>2</sub>CrO<sub>4</sub>, Et<sub>2</sub>O  
 2. 10-CSA, C<sub>1</sub>H<sub>2</sub>CH<sub>2</sub>Cl

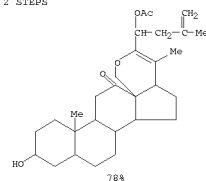
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(15) OF 46 - 2 STEPS



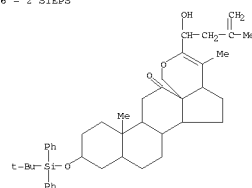
1. BF<sub>3</sub>-Et<sub>2</sub>O, CH<sub>2</sub>Cl<sub>2</sub>  
 2.1. Ac<sub>2</sub>O, Et<sub>3</sub>N,  
 4-OMAP, CH<sub>2</sub>Cl<sub>2</sub>  
 2.2. Bu<sub>4</sub>N.F, THF

RX(15) OF 46 - 2 STEPS



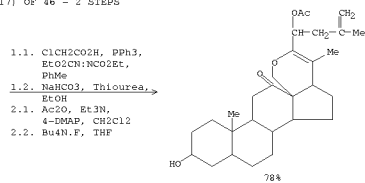
78%

RX(17) OF 46 - 2 STEPS

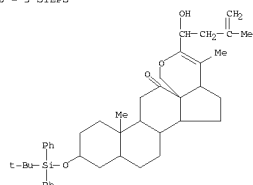


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

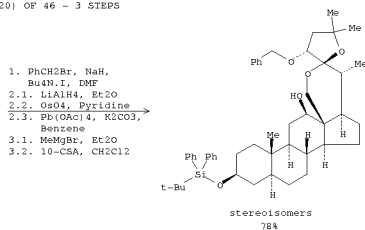
RX(17) OF 46 - 2 STEPS



RX(20) OF 46 - 3 STEPS

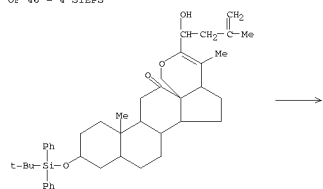


RX(20) OF 46 - 3 STEPS

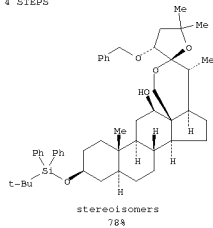


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

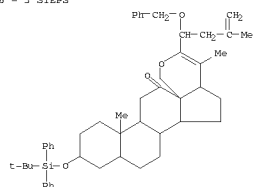
RX(22) OF 46 - 4 STEPS



RX(22) OF 46 - 4 STEPS

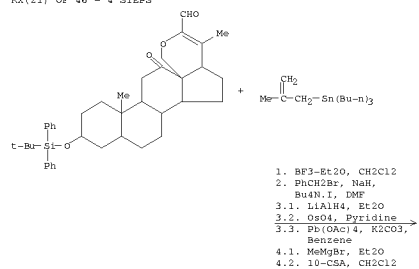


RX(23) OF 46 - 3 STEPS

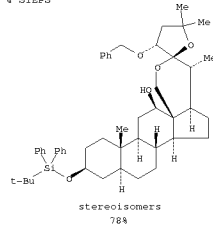


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(21) OF 46 - 4 STEPS

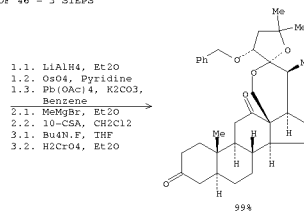


RX(21) OF 46 - 4 STEPS

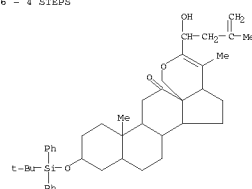


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

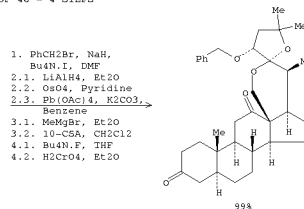
RX(23) OF 46 - 3 STEPS



RX(24) OF 46 - 4 STEPS

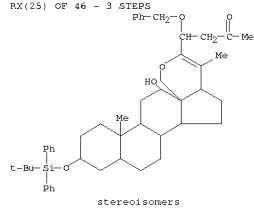


RX(24) OF 46 - 4 STEPS



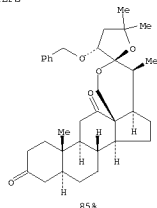
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(25) OF 46 - 3 STEPS



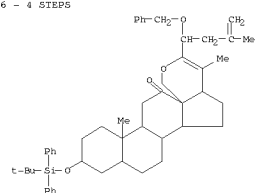
- 1.1. MeMgBr, Et<sub>2</sub>O
- 1.2. 10-CSA, CH<sub>2</sub>Cl<sub>2</sub>
- 2.1. Bu<sub>4</sub>N.F, THF
- 2.2. H<sub>2</sub>CrO<sub>4</sub>, Et<sub>2</sub>O
3. 10-CSA, ClCH<sub>2</sub>CH<sub>2</sub>Cl

RX(25) OF 46 - 3 STEPS



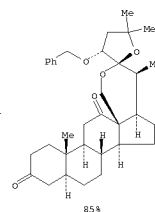
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(26) OF 46 - 4 STEPS

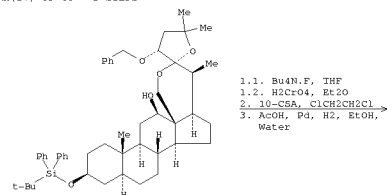


RX(26) OF 46 - 4 STEPS

- 1.1. LiAlH<sub>4</sub>, Et<sub>2</sub>O
- 1.2. OsO<sub>4</sub>, Pyridine
- 1.3. Pb(OAc)<sub>4</sub>, K<sub>2</sub>CO<sub>3</sub>, Benzene
- 2.1. MeMgBr, Et<sub>2</sub>O
- 2.2. 10-CSA, CH<sub>2</sub>Cl<sub>2</sub>
- 3.1. Bu<sub>4</sub>N.F, THF
- 3.2. H<sub>2</sub>CrO<sub>4</sub>, Et<sub>2</sub>O
4. 10-CSA, ClCH<sub>2</sub>CH<sub>2</sub>Cl



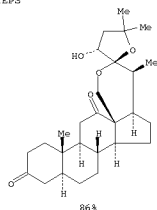
RX(27) OF 46 - 3 STEPS



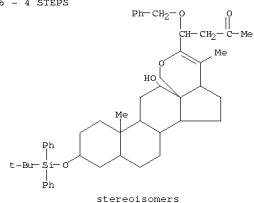
- 1.1. Bu<sub>4</sub>N.F, THF
- 1.2. H<sub>2</sub>CrO<sub>4</sub>, Et<sub>2</sub>O
2. 10-CSA, ClCH<sub>2</sub>CH<sub>2</sub>Cl
3. AcOH, Pd, H<sub>2</sub>, EtOH, Water

L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(27) OF 46 - 3 STEPS

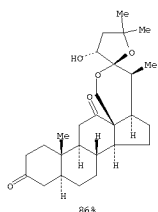


RX(28) OF 46 - 4 STEPS



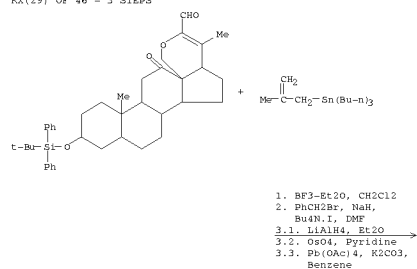
RX(28) OF 46 - 4 STEPS

- 1.1. MeMgBr, Et<sub>2</sub>O
- 1.2. 10-CSA, CH<sub>2</sub>Cl<sub>2</sub>
- 2.1. Bu<sub>4</sub>N.F, THF
- 2.2. H<sub>2</sub>CrO<sub>4</sub>, Et<sub>2</sub>O
3. 10-CSA, ClCH<sub>2</sub>CH<sub>2</sub>Cl
4. AcOH, Pd, H<sub>2</sub>, EtOH, Water



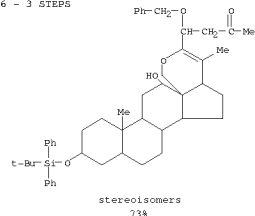
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(29) OF 46 - 3 STEPS



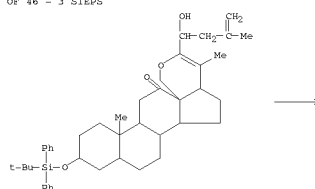
1. BF<sub>3</sub>-Et<sub>2</sub>O, CH<sub>2</sub>Cl<sub>2</sub>
2. PhCH<sub>2</sub>Br, NaH, Bu<sub>4</sub>N.F, DMF
- 3.1. LiAlH<sub>4</sub>, Et<sub>2</sub>O
- 3.2. OsO<sub>4</sub>, Pyridine
- 3.3. Pb(OAc)<sub>4</sub>, K<sub>2</sub>CO<sub>3</sub>, Benzene

RX(29) OF 46 - 3 STEPS



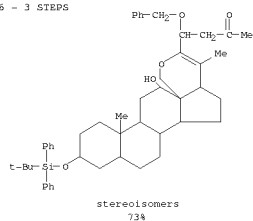
73%

RX(30) OF 46 - 3 STEPS

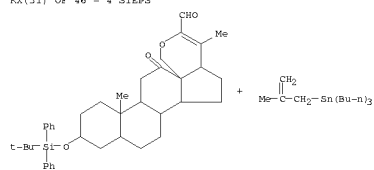


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

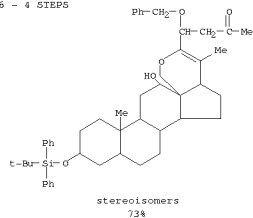
RX(30) OF 46 - 3 STEPS



RX(31) OF 46 - 4 STEPS

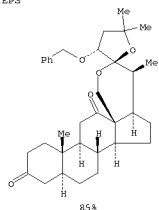
3. PhCH<sub>2</sub>Br

RX(31) OF 46 - 4 STEPS

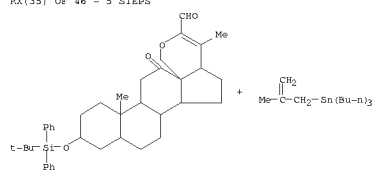


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

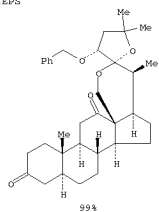
RX(34) OF 46 - 5 STEPS



RX(35) OF 46 - 5 STEPS

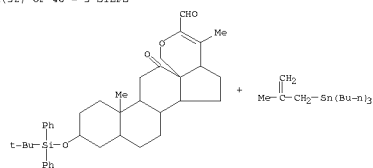
2. PhCH<sub>2</sub>Br  
4.1. MeMgBr

RX(35) OF 46 - 5 STEPS

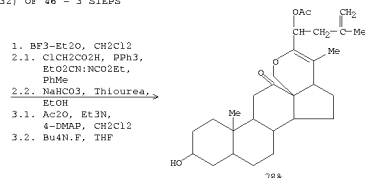


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

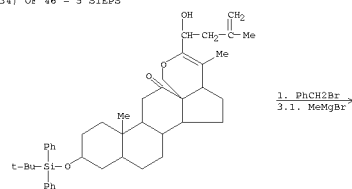
RX(32) OF 46 - 3 STEPS



RX(32) OF 46 - 3 STEPS

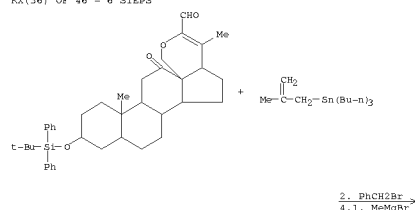


RX(34) OF 46 - 5 STEPS

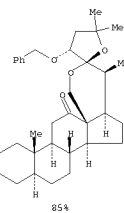
1. PhCH<sub>2</sub>Br  
3.1. MeMgBr

L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

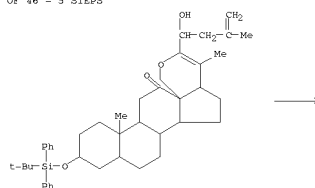
RX(36) OF 46 - 6 STEPS

2. PhCH<sub>2</sub>Br  
4.1. MeMgBr

RX(36) OF 46 - 6 STEPS

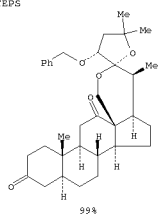


RX(37) OF 46 - 5 STEPS

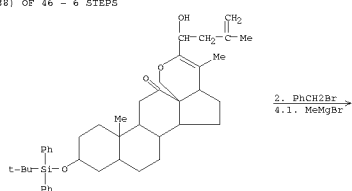


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

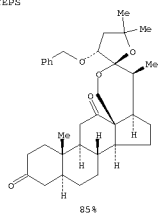
RX(37) OF 46 - 5 STEPS



RX(38) OF 46 - 6 STEPS

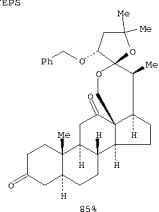


RX(38) OF 46 - 6 STEPS

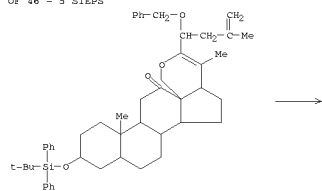


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

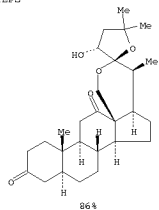
RX(40) OF 46 - 7 STEPS



RX(41) OF 46 - 5 STEPS

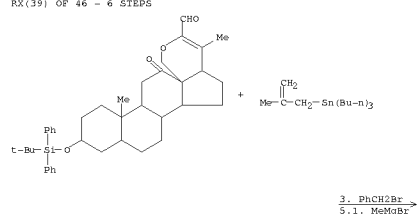


RX(41) OF 46 - 5 STEPS

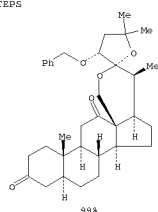


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

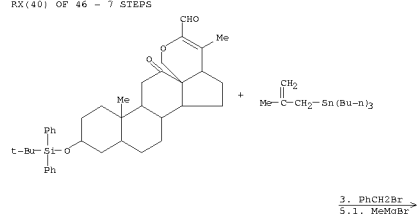
RX(39) OF 46 - 6 STEPS



RX(39) OF 46 - 6 STEPS

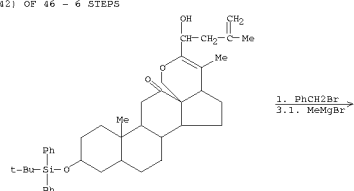


RX(40) OF 46 - 7 STEPS

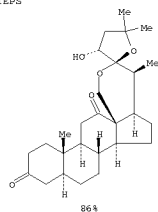


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

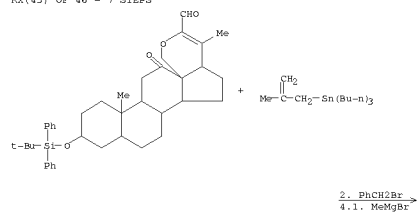
RX(42) OF 46 - 6 STEPS



RX(42) OF 46 - 6 STEPS

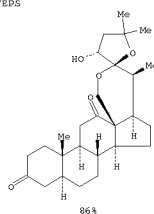


RX(43) OF 46 - 7 STEPS

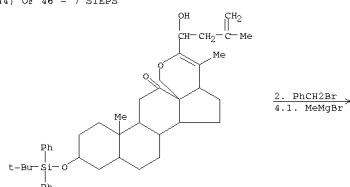


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

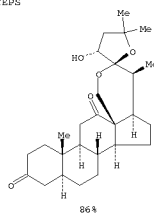
RX(43) OF 46 - 7 STEPS



RX(44) OF 46 - 7 STEPS

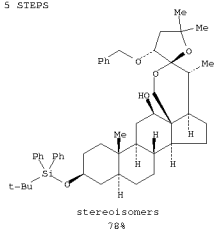


RX(44) OF 46 - 7 STEPS



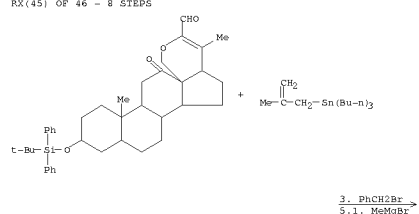
L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(46) OF 46 - 5 STEPS

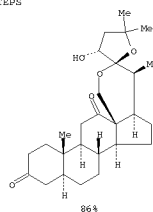


L6 ANSWER 22 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

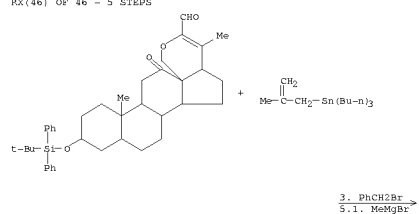
RX(45) OF 46 - 8 STEPS



RX(45) OF 46 - 8 STEPS

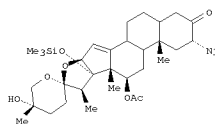
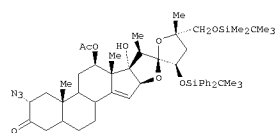


RX(46) OF 46 - 5 STEPS



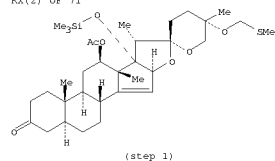
L6 ANSWER 23 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN

AN 123:340544 CASREACT  
 TI Biomimetic Total Syntheses of (+)-Cephalostatin 7, (+)-Cephalostatin 12, and (+)-Ritterazine K  
 AU Jeong, Jae Uk; Sutton, Scott C.; Kim, Seongkon; Fuchs, P. L.  
 CS Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA  
 SO Journal of the American Chemical Society (1995), 117(40), 10157-8  
 CODEN: JACSAT; ISSN: 0002-7863  
 PB American Chemical Society  
 DT Journal  
 LA English  
 GI



AB Reaction of a 1:1 mixture of  $\alpha$ -azido ketones I and II with sodium hydrogen telluride produces a mixture of three trisdecacyclic pyrazines after cleavage of the protecting groups. Two of these materials are identical to natural cephalostatin 12 and cephalostatin 7 and the third product is shown to have the structure of ritterazine K.

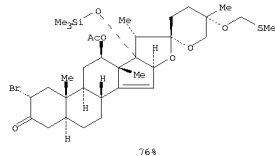
RX(2) OF 71



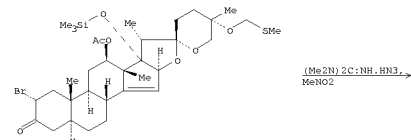
1. Jacques reagent,  
 THP  
 2. NaHSO<sub>3</sub>

L6 ANSWER 23 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

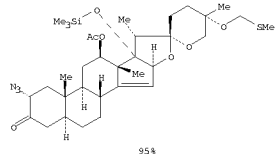
RX(2) OF 71



RX(4) OF 71



RX(4) OF 71

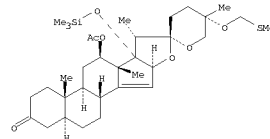


NOTE: chemoselective, alternative reaction conditions/solvent gave lower yield

RX(8) OF 71 - REACTION DIAGRAM NOT AVAILABLE

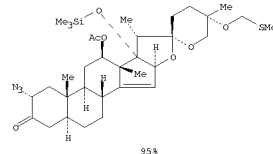
L6 ANSWER 23 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(12) OF 71 - 2 STEPS



1.1. Jacques reagent,  
THF  
1.2. NaHSO<sub>3</sub>  
2. (Me<sub>2</sub>N)<sub>2</sub>C:NH.HN<sub>3</sub>,  
MeNO<sub>2</sub>

RX(12) OF 71 - 2 STEPS



NOTE: 2) chemoselective, alternative reaction conditions/solvent gave lower yield

RX(13) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(14) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(15) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(16) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(17) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(18) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(19) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(20) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(21) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(22) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(23) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(24) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(25) OF 71 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 23 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(26) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(27) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(28) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(29) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(30) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(31) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(32) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(33) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(34) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(35) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(36) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(37) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(38) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(39) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(40) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(41) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(42) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(43) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(44) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(45) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(46) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(47) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(48) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(49) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(50) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(51) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(52) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(53) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(54) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(55) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(56) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(57) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(58) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(59) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(60) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(61) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(62) OF 71 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 23 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(63) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(64) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(65) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(66) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(67) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(68) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(69) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(70) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RX(71) OF 71 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 24 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 122:265778 CASREACT  
 TI Preparation of cephalostatin analogs as neoplasm inhibitors.  
 IN Winterfeldt, Ekkehard; Kramer, Andreas; Ullmann, Ulrike; Laurent, Henry  
 PA Schering A.-G., Germany  
 SO Ger. Offen., 13 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE-----4318924	A1	19941208	1993DE-004318924	19930603
CA-----2164314	A1	19941222	1994CA-002164314	19940603
WO-----9429318	A1	19941222	1994WO-EP0001858	19940603

W: CA, JP, US  
 RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
 EP-----701559 A1 19960320 1994EP-000919619 19940603  
 EP-----701559 B1 19980729  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE  
 JP-----08511256 I 19961126 1994JP-000501318 19940603  
 AT-----169021 T 19980815 1994AT-000919619 19940603  
 US-----5708164 A 19980113 1996US-000564234 19960606

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 OS MARPAT 122:265778  
 GI

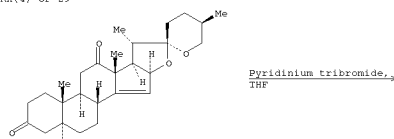
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Title compds. [I; (a) R1, R11 = alkanoyloxy; R2R3, R12R13 = bond; or (b) R11 = alkanoyloxy; R12R13 = bond; R1R2 = O; R3 = H; or (c) R1 =  $\beta$ -OH; R2, R3 = H; R1R12 = O; R13 = H; or (d) R1, R11 =  $\beta$ -OH; R2, R3, R12, R13 = H], were prepared. Thus, dione (II; X = H) was stirred with pyridinium bromide perbromide in THF to give II (X = Br). This was stirred with NaN<sub>3</sub> and catalytic KI in DMF at 50° to give 80% I (X = HN). The latter was stirred with Pd/C in EtOAc/MeOH/HOAc under H to give 64% I (R1R2, R1R12 = O; R3, R13 = H). This in THF was treated with KN(SiMe<sub>3</sub>)<sub>2</sub> and then pivaloyl chloride to give 40% I (R1R2 = O; R3 = H; R11 = pivaloyloxy; R12R13 = bond). I are highly effective in inhibiting cell growth in various human cell lines.

RX(2) OF 29 - REACTION DIAGRAM NOT AVAILABLE

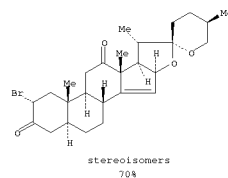
RX(3) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(4) OF 29



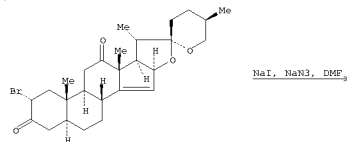
L6 ANSWER 24 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(4) OF 29

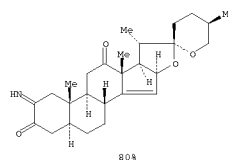


NOTE: 1% ALPHA/BETA MIXT.

RX(5) OF 29



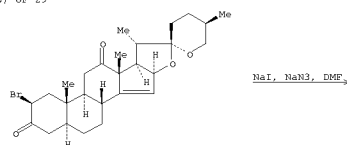
RX(5) OF 29



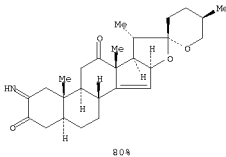
NOTE: EPIMERIC BROMIDES

L6 ANSWER 24 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(6) OF 29



RX(6) OF 29

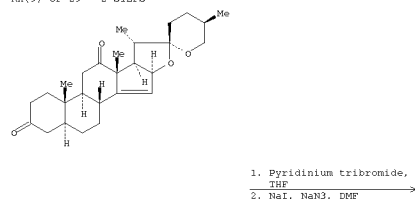


NOTE: EPIMERIC BROMIDES

RX(7) OF 29 - REACTION DIAGRAM NOT AVAILABLE

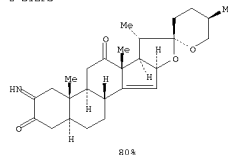
RX(8) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(9) OF 29 - 2 STEPS



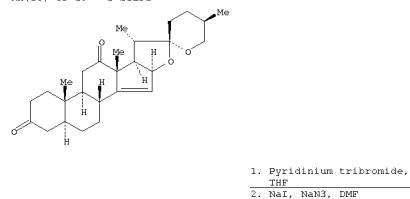
L6 ANSWER 24 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(9) OF 29 - 2 STEPS

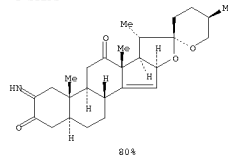


NOTE: 1) 1% ALPHA/BETA MIXT., 2) EPIMERIC BROMIDES

RX(10) OF 29 - 2 STEPS



RX(10) OF 29 - 2 STEPS



NOTE: 1) 1% ALPHA/BETA MIXT., 2) EPIMERIC BROMIDES

RX(11) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(12) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(13) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(14) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(15) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(16) OF 29 - REACTION DIAGRAM NOT AVAILABLE



L6 ANSWER 24 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(17) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(18) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(19) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(20) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(21) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(22) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(23) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(24) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(25) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(26) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(27) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(28) OF 29 - REACTION DIAGRAM NOT AVAILABLE

RX(29) OF 29 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

AN 122-81737 CASREACT

II Synthesis and Biological Activity Of Unsymmetrical Bis-Steroidal Pyrazines Related to the Cytotoxic Marine Natural Product Cephalostatin 1

AU Heathcock, Clayton W.; Smith, Stephen C.  
CS Department of Chemistry, University of California, Berkeley, CA, 94720, USA

50 Journal of Organic Chemistry (1994), 59(22), 6828-39

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

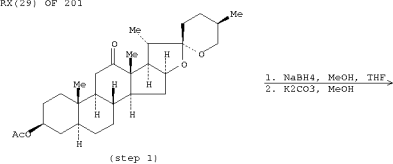
LA English

GI

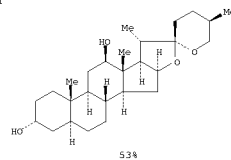
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A mild, high-yielding synthesis of sym. steroidal pyrazines was achieved from the dimerization of 2-amino-3-keto steroids, which were produced in situ from the triphenylphosphine-water reduction of the corresponding  $\alpha$ -arido ketone. 2-Aridocholestan-3-one I gave dimeric steroidal pyrazine II very cleanly, and two known dimeric pyrazines based on androstanone were also made using this method. Both C2-sym. geometric isomers of the dimeric steroidal pyrazine derived from cholestane were prepared by reaction of 2,3-diaminocholestan-3-one with cholestane-2,3-dione. A route to unsym. bis-steroidal pyrazines was based on the observation that  $\alpha$ -acetoxy ketones react with  $\alpha$ -amino oximes directly with no need for oxidation of intermediate dihydropyrazines. Heating 28,17 $\beta$ -dihydroxyandrostan-3-one diacetate III with 2-amino-3-methoxyiminocholestan-3-one IV in toluene at 145° gave the corresponding unsym. pyrazine V in moderate yield. Five of the steroidal pyrazines were evaluated in the National Cancer Institute's new in vitro, disease-oriented antitumor screen, but none showed sufficient activity to warrant in vivo investigation.

RX(29) OF 201

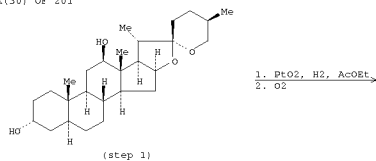


RX(29) OF 201

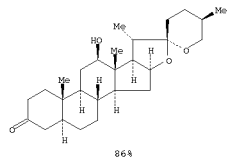


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

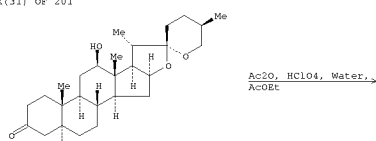
RX(30) OF 201



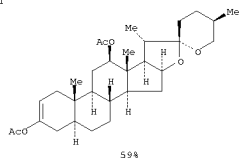
RX(30) OF 201



RX(31) OF 201

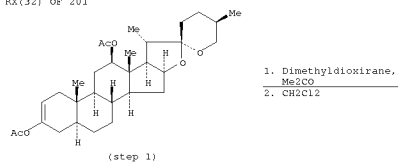


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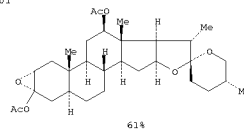


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

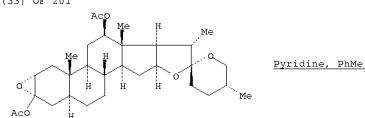
RX(32) OF 201



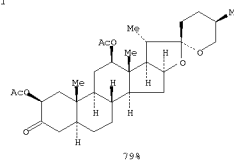
RX(32) OF 201



RX(33) OF 201

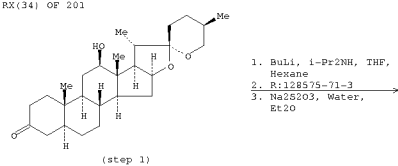


RX(33) OF 201

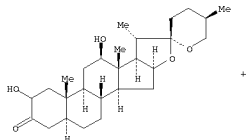


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

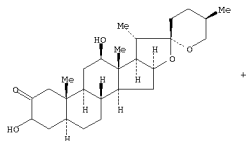
RX(34) OF 201



RX(34) OF 201

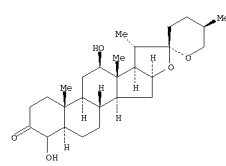


RX(34) OF 201



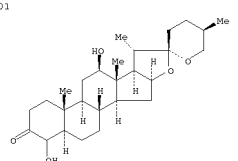
L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(34) OF 201

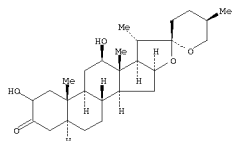


NOTE: 53% OVERALL

RX(35) OF 201

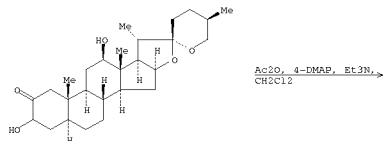


RX(35) OF 201

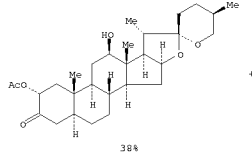


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

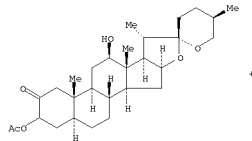
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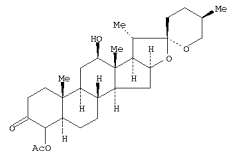
RX(35) OF 201



RX(35) OF 201



RX(35) OF 201



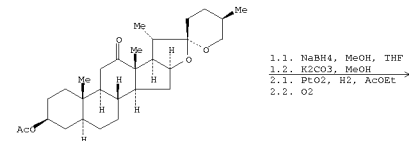
NOTE: 96% OVERALL

L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

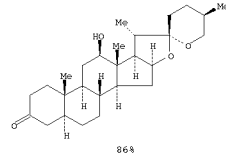
RX(36) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(60) OF 201 - REACTION DIAGRAM NOT AVAILABLE

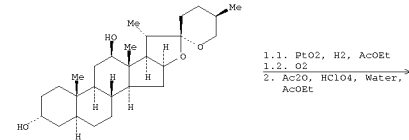
RX(67) OF 201 - 2 STEPS



RX(67) OF 201 - 2 STEPS

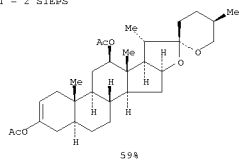


RX(68) OF 201 - 2 STEPS

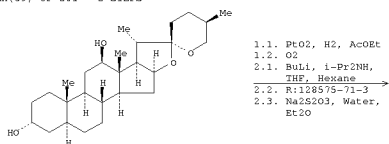


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

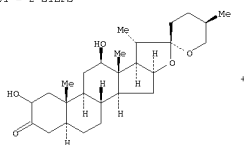
RX(68) OF 201 - 2 STEPS



RX(69) OF 201 - 2 STEPS

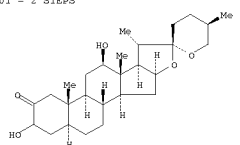


RX(69) OF 201 - 2 STEPS

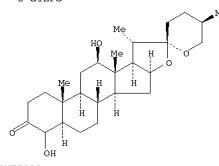


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

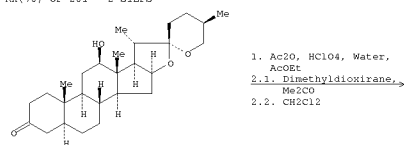
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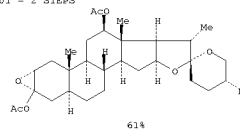
RX(69) OF 201 - 2 STEPS



RX(70) OF 201 - 2 STEPS

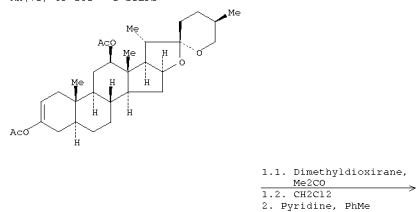


RX(70) OF 201 - 2 STEPS

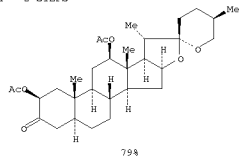


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

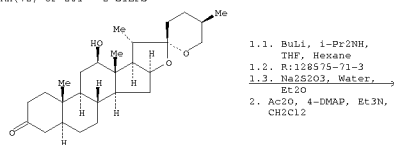
RX(71) OF 201 - 2 STEPS



RX(71) OF 201 - 2 STEPS

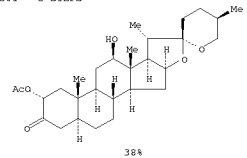


RX(72) OF 201 - 2 STEPS

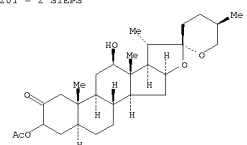


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

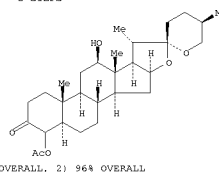
RX(72) OF 201 - 2 STEPS



RX(72) OF 201 - 2 STEPS



RX(72) OF 201 - 2 STEPS



RX(73) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(74) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(82) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(112) OF 201 - REACTION DIAGRAM NOT AVAILABLE

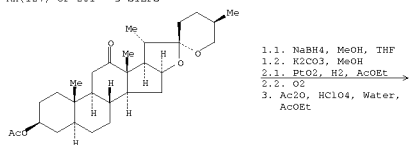
RX(113) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(119) OF 201 - REACTION DIAGRAM NOT AVAILABLE

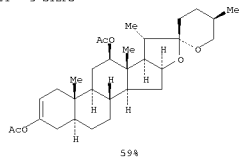
RX(120) OF 201 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

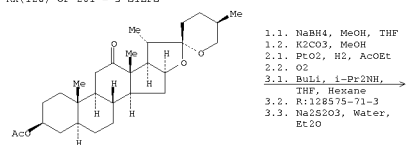
RX(127) OF 201 - 3 STEPS



RX(127) OF 201 - 3 STEPS

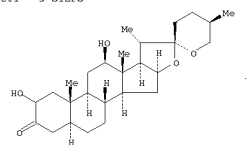


RX(128) OF 201 - 3 STEPS

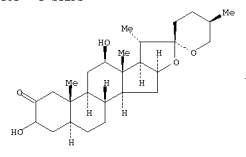


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

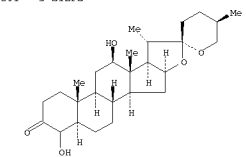
RX(128) OF 201 - 3 STEPS



RX(128) OF 201 - 3 STEPS



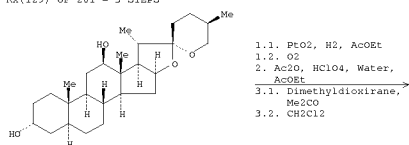
RX(128) OF 201 - 3 STEPS



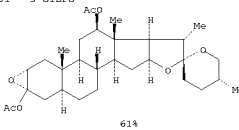
NOTE: 3) 53% OVERALL

L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

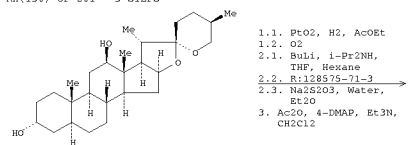
RX(129) OF 201 - 3 STEPS



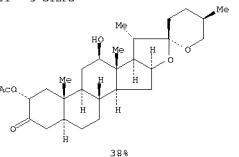
RX(129) OF 201 - 3 STEPS



RX(130) OF 201 - 3 STEPS

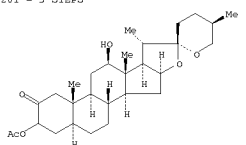


RX(130) OF 201 - 3 STEPS

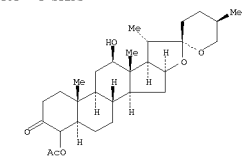


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(130) OF 201 - 3 STEPS

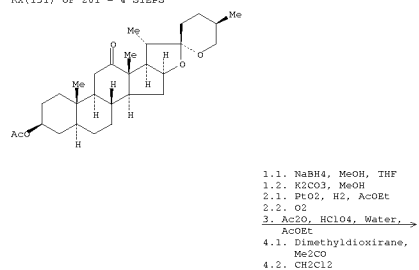


RX(130) OF 201 - 3 STEPS



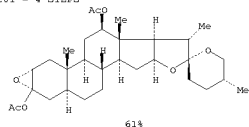
NOTE: 2) 53% OVERALL, 3) 96% OVERALL

RX(131) OF 201 - 4 STEPS

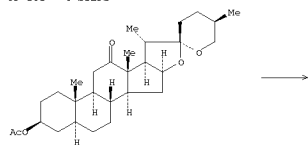


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

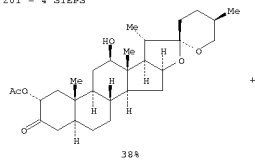
RX(131) OF 201 - 4 STEPS



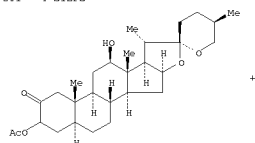
RX(132) OF 201 - 4 STEPS



RX(132) OF 201 - 4 STEPS

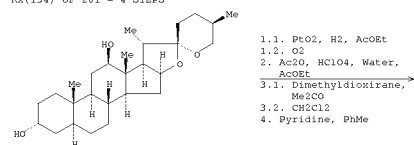


RX(132) OF 201 - 4 STEPS

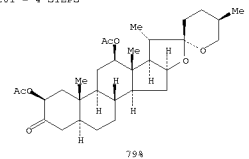


L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(134) OF 201 - 4 STEPS



RX(134) OF 201 - 4 STEPS



RX(135) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(136) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(137) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(138) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(139) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(146) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(181) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(182) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(183) OF 201 - REACTION DIAGRAM NOT AVAILABLE

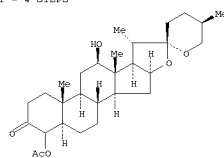
RX(185) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(186) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(187) OF 201 - REACTION DIAGRAM NOT AVAILABLE

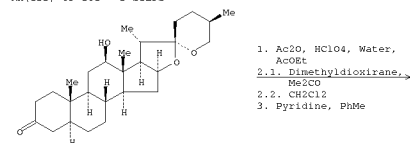
L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(132) OF 201 - 4 STEPS



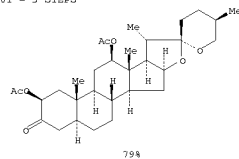
NOTE: 3) 53% OVERALL, 4) 96% OVERALL

RX(133) OF 201 - 3 STEPS



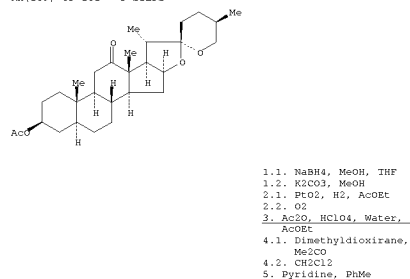
1. Ac<sub>2</sub>O, HClO<sub>4</sub>, Water, AcOEt
- 2.1. Dimethyldioxirane, Me<sub>2</sub>CO
- 2.2. CH<sub>2</sub>Cl<sub>2</sub>
3. Pyridine, PhMe

RX(133) OF 201 - 3 STEPS



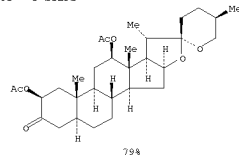
L6 ANSWER 25 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(189) OF 201 - 5 STEPS



- 1.1. NaBH<sub>4</sub>, MeOH, THF
- 1.2. K<sub>2</sub>CO<sub>3</sub>, MeOH
- 2.1. PtO<sub>2</sub>, H<sub>2</sub>, AcOEt
- 2.2. O<sub>2</sub>
3. Ac<sub>2</sub>O, HClO<sub>4</sub>, Water, AcOEt
- 4.1. Dimethyldioxirane, Me<sub>2</sub>CO
- 4.2. CH<sub>2</sub>Cl<sub>2</sub>
5. Pyridine, PhMe

RX(189) OF 201 - 5 STEPS



RX(190) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(191) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(192) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(193) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(194) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(195) OF 201 - REACTION DIAGRAM NOT AVAILABLE

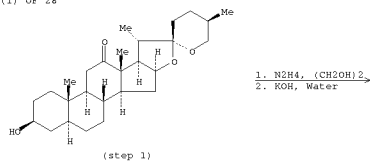
RX(196) OF 201 - REACTION DIAGRAM NOT AVAILABLE

RX(197) OF 201 - REACTION DIAGRAM NOT AVAILABLE

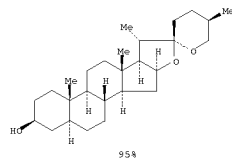
RX(198) OF 201 - REACTION DIAGRAM NOT AVAILABLE

L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
 AN 121:301142 CASREACT  
 TI synthesis of oxymetholone from hecogenin  
 AU Ruiz Garcia, Jose Alberto; Espinosa Espinosa, Jose Manuel; Velez Castro, Herman; Rosada Perez, Aristides  
 CS Dep. DE Sint., Lab. Tec. DE Med., Cuba  
 SO Revista Cubana de Farmacia (1992), 26(1), 11-21  
 CODEN: RCUFAC; ISSN: 0034-7515  
 DT Journal  
 LA Spanish  
 AB Oxymetholone was obtained by a 7-step procedure starting from hecogenin.

RX(1) OF 28

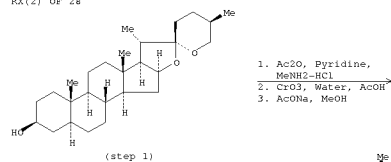


RX(1) OF 28

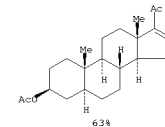


L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

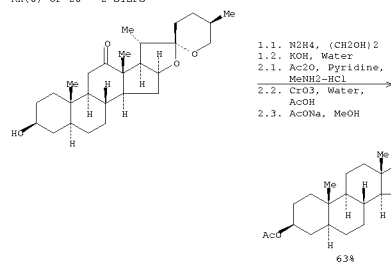
RX(2) OF 28



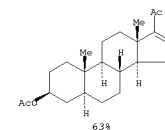
1. Ac<sub>2</sub>O, Pyridine,  
MeNH<sub>2</sub>-HCl  
 2. CrO<sub>3</sub>, Water, AcOH  
 3. AcONa, MeOH



RX(8) OF 28 - 2 STEPS

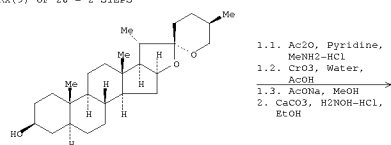


1.1. N<sub>2</sub>H<sub>4</sub>, (CH<sub>2</sub>OH)<sub>2</sub>  
 1.2. KOH, Water  
 2.1. Ac<sub>2</sub>O, Pyridine,  
MeNH<sub>2</sub>-HCl  
 2.2. CrO<sub>3</sub>, Water,  
AcOH  
 2.3. AcONa, MeOH



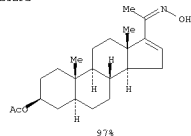
L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(9) OF 28 - 2 STEPS



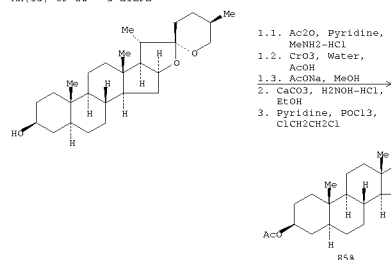
1.1. Ac<sub>2</sub>O, Pyridine,  
MeNH<sub>2</sub>-HCl  
 1.2. CrO<sub>3</sub>, Water,  
AcOH  
 1.3. AcONa, MeOH  
 2. CaCO<sub>3</sub>, H<sub>2</sub>NOH-HCl,  
EtOH

RX(9) OF 28 - 2 STEPS

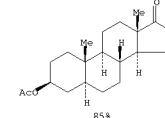


L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

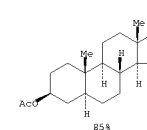
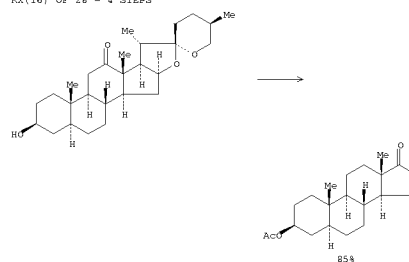
RX(15) OF 28 - 3 STEPS



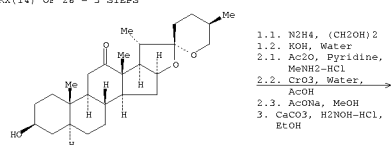
1.1. Ac<sub>2</sub>O, Pyridine,  
MeNH<sub>2</sub>-HCl  
 1.2. CrO<sub>3</sub>, Water,  
AcOH  
 1.3. AcONa, MeOH  
 2. CaCO<sub>3</sub>, H<sub>2</sub>NOH-HCl,  
EtOH  
 3. Pyridine, POCl<sub>3</sub>,  
ClCH<sub>2</sub>CH<sub>2</sub>Cl



RX(16) OF 28 - 4 STEPS

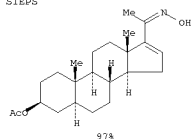


RX(14) OF 28 - 3 STEPS



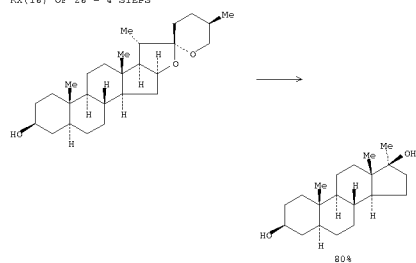
1.1. N<sub>2</sub>H<sub>4</sub>, (CH<sub>2</sub>OH)<sub>2</sub>  
 1.2. ROH, Water  
 2.1. Ac<sub>2</sub>O, Pyridine,  
MeNH<sub>2</sub>-HCl  
 2.2. CrO<sub>3</sub>, Water,  
AcOH  
 2.3. AcONa, MeOH  
 3. CaCO<sub>3</sub>, H<sub>2</sub>NOH-HCl,  
EtOH

RX(14) OF 28 - 3 STEPS

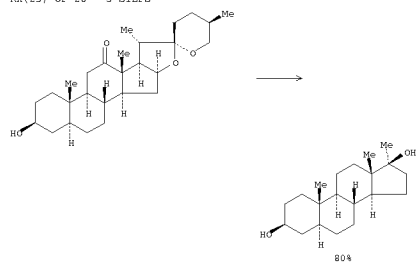


L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(18) OF 28 - 4 STEPS

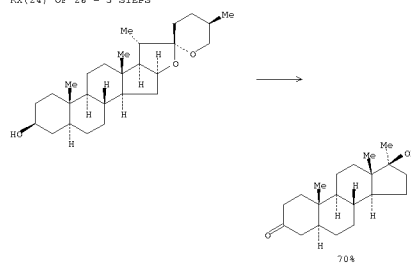


RX(23) OF 28 - 5 STEPS

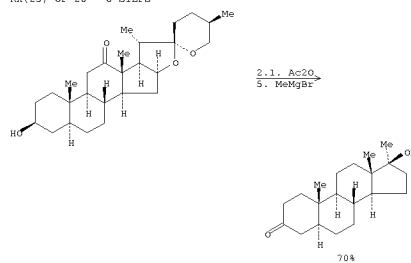


L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(24) OF 28 - 5 STEPS

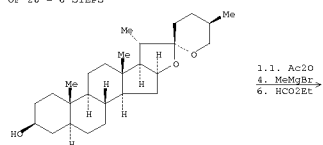


RX(25) OF 28 - 6 STEPS

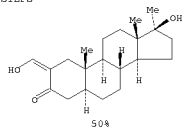


L6 ANSWER 26 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

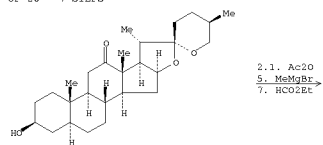
RX(27) OF 28 - 6 STEPS



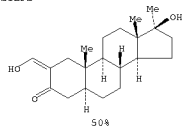
RX(27) OF 28 - 6 STEPS



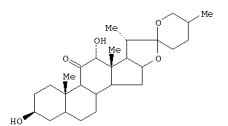
RX(28) OF 28 - 7 STEPS



RX(28) OF 28 - 7 STEPS

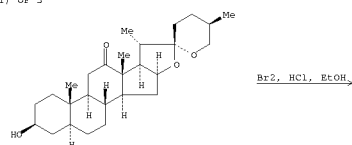


L6 ANSWER 27 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
 AN 121:9812 CASREACT  
 TI Transposition of the carbonyl group in hecogenin  
 AU Ruiz Garcia, Jose Alberto  
 CS Dep. Sint., Lab. Tec. Med., Havana, Cuba  
 SO Revista Cubana de Farmacia (1991), 25(2), 100-5  
 CODEN: RCUFAC; ISSN: 0034-7515  
 DT Journal  
 LA Spanish  
 GI

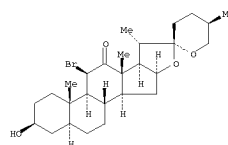


AB Bromination of hecogenin (3β-hydroxyspirostan-12-one) afforded 11β-bromohecogenin, which was hydrolyzed with 10% a/c. NaOH solution to give 3β,12β-dihydroxyspirostan-11-one (I).

RX(1) OF 3

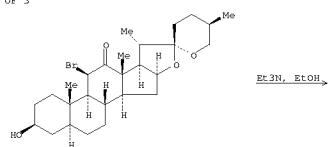


RX(1) OF 3

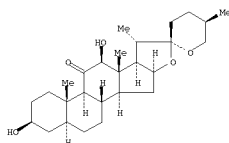


L6 ANSWER 27 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

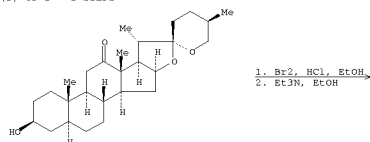
RX(2) OF 3



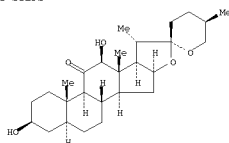
RX(2) OF 3



RX(3) OF 3 - 2 STEPS



RX(3) OF 3 - 2 STEPS

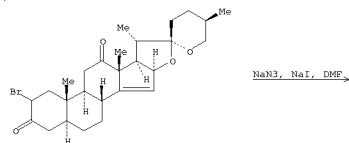


L6 ANSWER 28 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 120:245596 CASREACT  
 TI A short route to cephalostatin analogs  
 AU Kramer, Andreas; Ullmann, Ulrike; Winterfeldt, Ekkehard  
 CS Inst. Organ. Chem., Univ. Hannover, Hannover, 30167, Germany  
 SO Journal of the Chemical Society, Perkin Transactions 1: Organic and  
 Bio-Organic Chemistry (1972-1999) (1993), (23), 2865-7  
 CODEN: JCPRB4; ISSN: 0300-922X  
 DT Journal  
 LA English  
 GI

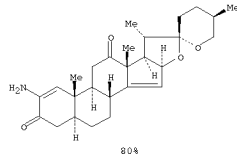
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Starting from hecogenin derivative I, a short route to cephalostatin analog II (R = H, R1 = OH) is described. The key step was the cyclic dimerization of enamine ketone III to cephalostatin analog II (RR1 = O) by hydrogenation.

RX(1) OF 10



RX(1) OF 10



RX(2) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RX(4) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RX(5) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RX(6) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RX(7) OF 10 - REACTION DIAGRAM NOT AVAILABLE

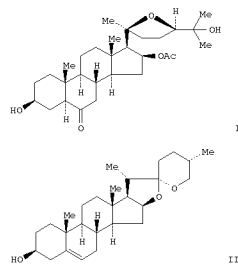
RX(8) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RX(9) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RX(10) OF 10 - REACTION DIAGRAM NOT AVAILABLE

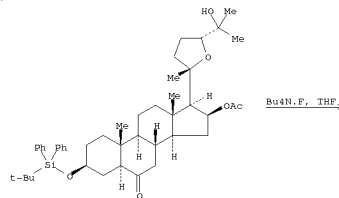
L6 ANSWER 27 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 120:8811 CASREACT  
 TI Hemisynthesis of (20S,24R)-20,24-epoxy-3β,16β,25-trihydroxy-6-oxo-5α-cholestane 16-acetate from diosgenin  
 AU Tavares, Regina; Randoux, Thierry; Braekman, Jean Claude; Daloz, Desire  
 CS Fac. Sci., Univ. Brussels, Brussels, B-1050, Belg.  
 SO Tetrahedron (1993), 49(23), 5079-90  
 CODEN: TETRAH; ISSN: 0040-4020  
 DT Journal  
 LA English  
 GI



AB The title compound (I), which was isolated as its 3β-sophorose from the defensive secretion of *Chrysomela varians* (Coleoptera: Chrysomelidae), has been synthesized from diosgenin (II) in 8 steps.

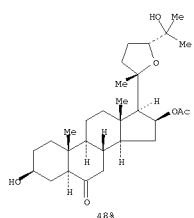
RX(1) OF 33



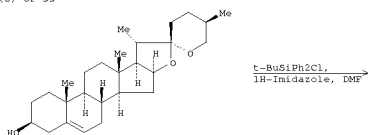


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

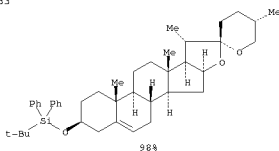
RX(1) OF 33



RX(2) OF 33

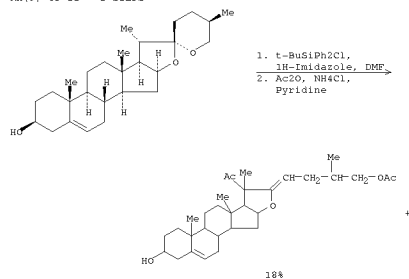


RX(2) OF 33

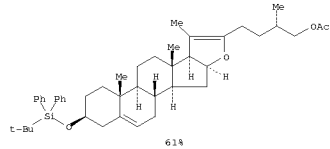


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

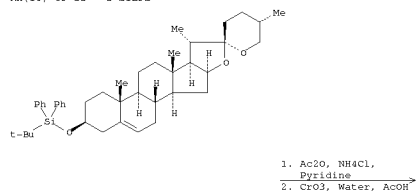
RX(9) OF 33 - 2 STEPS



RX(9) OF 33 - 2 STEPS

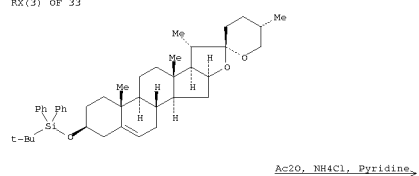


RX(10) OF 33 - 2 STEPS

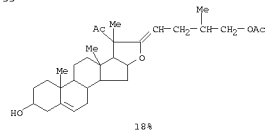


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

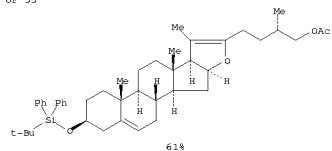
RX(3) OF 33



RX(3) OF 33

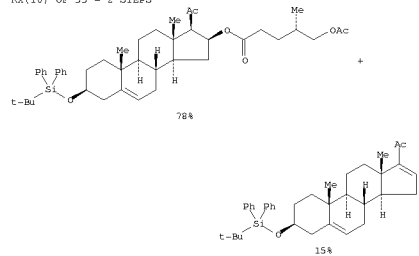


RX(3) OF 33

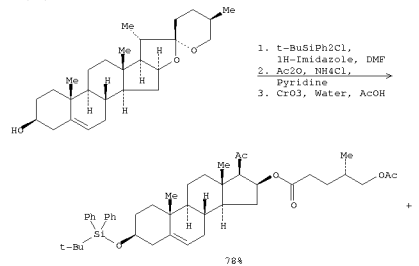


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

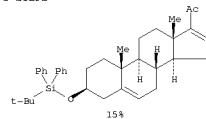
RX(10) OF 33 - 2 STEPS



RX(16) OF 33 - 3 STEPS

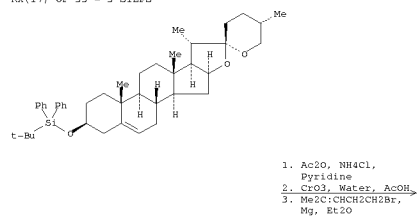


RX(16) OF 33 - 3 STEPS

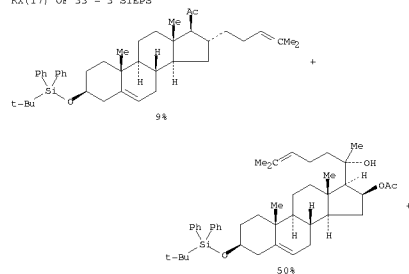


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

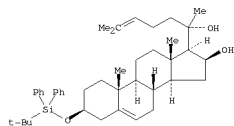
RX(17) OF 33 - 3 STEPS



RX(17) OF 33 - 3 STEPS

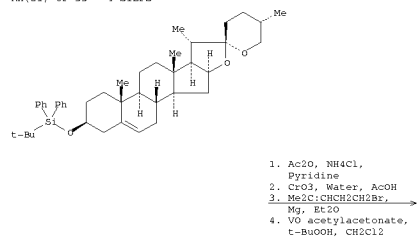


RX(17) OF 33 - 3 STEPS

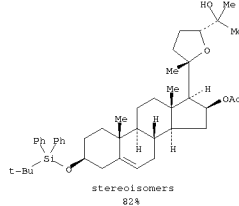


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(21) OF 33 - 4 STEPS

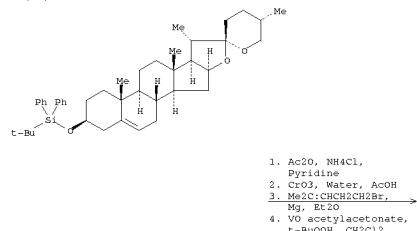


RX(21) OF 33 - 4 STEPS



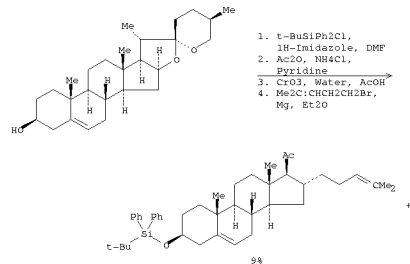
NOTE: 4) 245-epimer is a trace product

RX(22) OF 33 - 4 STEPS

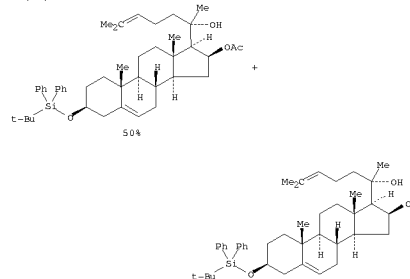


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(18) OF 33 - 4 STEPS

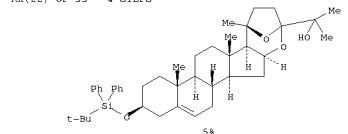


RX(18) OF 33 - 4 STEPS

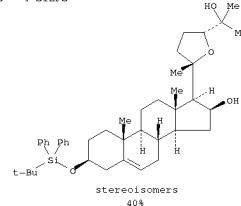


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

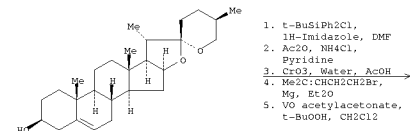
RX(22) OF 33 - 4 STEPS



RX(22) OF 33 - 4 STEPS

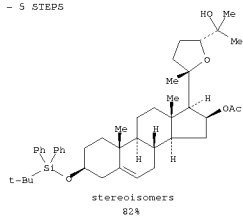


RX(27) OF 33 - 5 STEPS



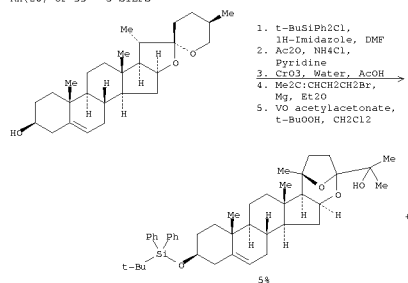
L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(27) OF 33 - 5 STEPS



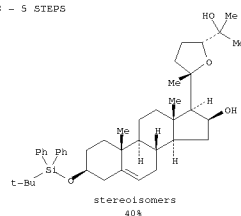
NOTE: 5) 24S-epimer is a trace product

RX(28) OF 33 - 5 STEPS

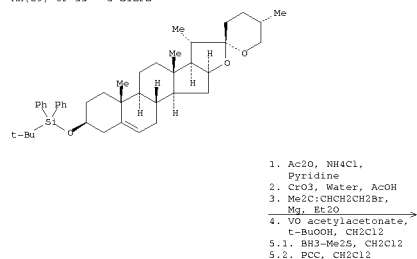


L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(28) OF 33 - 5 STEPS

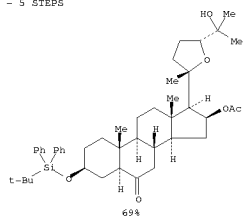


RX(29) OF 33 - 5 STEPS



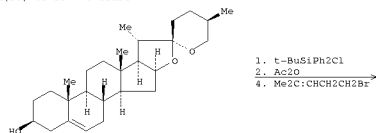
L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(29) OF 33 - 5 STEPS

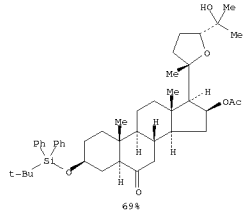


NOTE: 4) 24S-epimer is a trace product, 5) second step - ultrasound

RX(30) OF 33 - 6 STEPS



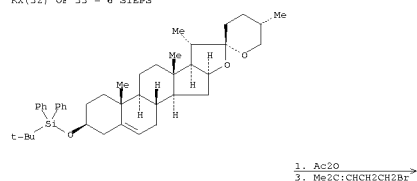
RX(30) OF 33 - 6 STEPS



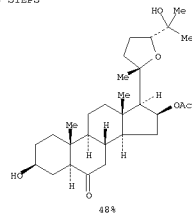
NOTE: 5) 24S-epimer is a trace product, 6) second step - ultrasound

L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(32) OF 33 - 6 STEPS

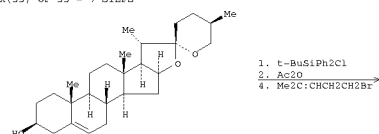


RX(32) OF 33 - 6 STEPS



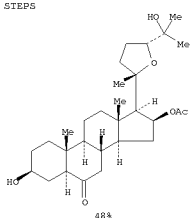
NOTE: 4) 24S-epimer is a trace product, 5) second step - ultrasound

RX(33) OF 33 - 7 STEPS



L6 ANSWER 29 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(33) OF 33 - 7 STEPS

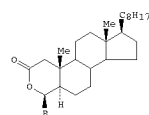


NOTE: 5) 24S-epimer is a trace product, 6) second step - ultrasound

L6 ANSWER 30 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

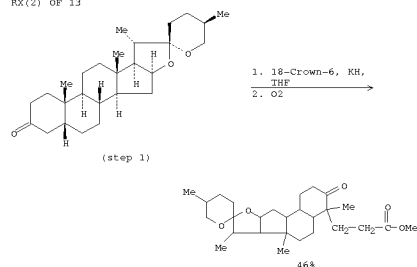
AN 116:194675 CASREACT

TI Regioselective oxidation of ketone by an oxidative reagent system  
 KH/O2/18-crown-6/THF: application to synthesis of various lactones  
 AU Zhou, Weishan; Jiang, Biao; Pan, Xinfu  
 CS Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai, 200032, Peop. Rep. China  
 SO Chinese Chemical Letters (1991), 2(7), 505-8  
 CODEN: CCLLEE; ISSN: 1001-8417  
 DT Journal  
 LA English  
 GI



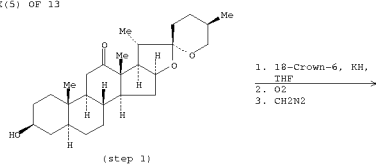
AB The regioselectivity in the oxidation of different types of steroidal ketones with an oxidative reagent system, KH/O2/18-Crown-6/THF is described. From these oxidative products, various lactones have been prepared. Thus treating 5 $\alpha$ -cholestan-3-one with KH/18-Crown-6 in THF, followed by oxygen gave 75 $\alpha$  lactol I (R = OH). NaBH4 reduction of I (R = OH) gave lactone I (R = R).

RX(2) OF 13

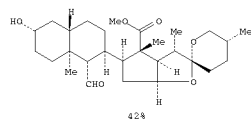


L6 ANSWER 30 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

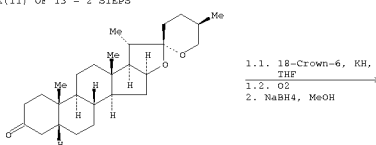
RX(5) OF 13



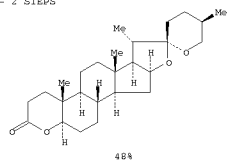
RX(5) OF 13



RX(11) OF 13 - 2 STEPS



RX(11) OF 13 - 2 STEPS

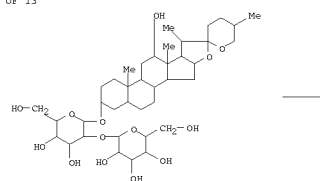


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

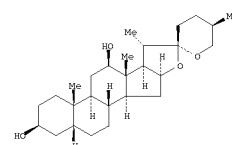
AN 115:110617 CASREACT

TI The constituents of Yucca gloriosa. Part 4. 12-Hydroxy steroidal glycosides from the caudex of Yucca gloriosa  
 AU Nakano, Kimiko; Hara, Yumiko; Murakami, Kotaro; Takaiishi, Yoshihisa; Tomimatsu, Toshiaki  
 CS Fac. Pharm. Sci., Tokushima Univ., Tokushima, 770, Japan  
 SO Phytochemistry (1991), 30(6), 1993-5  
 CODEN: PHYCAS; ISSN: 0031-9422  
 DT Journal  
 LA English  
 AB The structures of 3 new steroidal saponins (tentatively named YS-XI, - XII and -XIII) have been isolated from the caudex of Y. gloriosa and characterized as 3-O- $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 2)- $\beta$ -D-galactopyranosyl 5 $\beta$ -(25R)-spirostan-3 $\beta$ ,12 $\beta$ -diol, 3-O- $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 2)- $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 3)]- $\beta$ -D-glucopyranosyl 5 $\beta$ -(25R)-spirostan-3 $\beta$ ,12 $\beta$ -diol and 3-O- $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 2)- $\beta$ -D-galactopyranosyl 5 $\beta$ -(25R)-spirostan-2 $\beta$ ,3 $\beta$ ,12 $\beta$ -triol, resp.

RX(1) OF 13

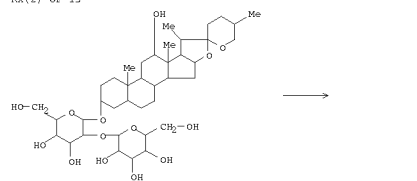


RX(1) OF 13

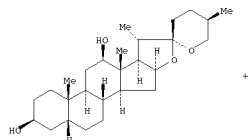


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

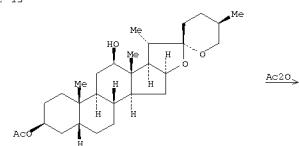
RX(2) OF 13



RX(3) OF 13

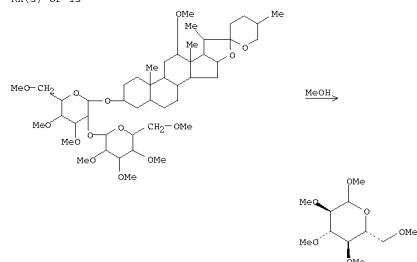


RX(3) OF 13

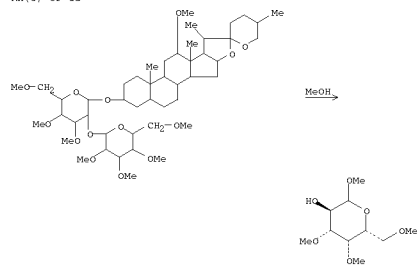


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

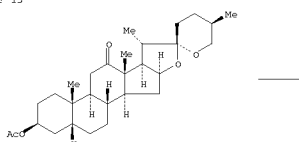
RX(5) OF 13



RX(6) OF 13

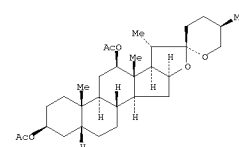


RX(7) OF 13

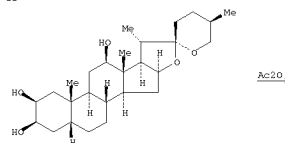


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

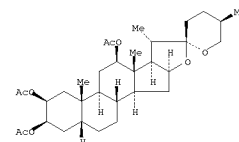
RX(3) OF 13



RX(4) OF 13

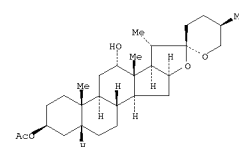


RX(4) OF 13

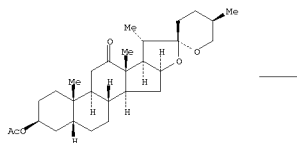


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

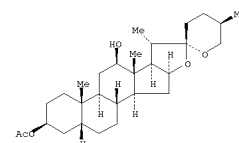
RX(7) OF 13



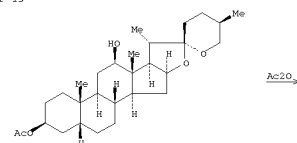
RX(8) OF 13



RX(8) OF 13

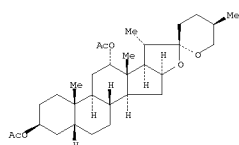


RX(9) OF 13

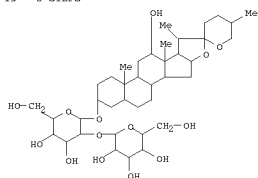


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

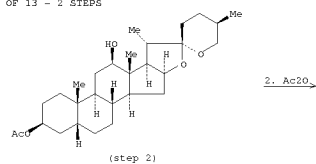
RX(9) OF 13



RX(10) OF 13 - 2 STEPS

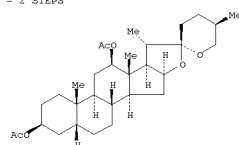


RX(10) OF 13 - 2 STEPS

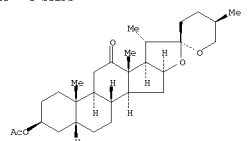


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

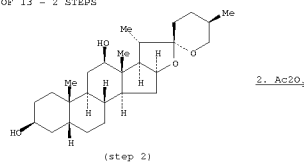
RX(10) OF 13 - 2 STEPS



RX(11) OF 13 - 2 STEPS

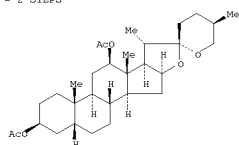


RX(11) OF 13 - 2 STEPS

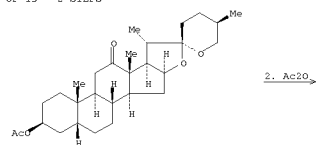


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

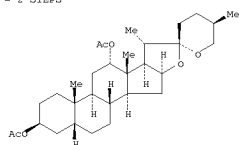
RX(11) OF 13 - 2 STEPS



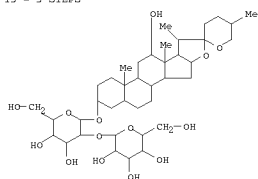
RX(12) OF 13 - 2 STEPS



RX(12) OF 13 - 2 STEPS

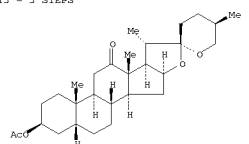


RX(13) OF 13 - 3 STEPS

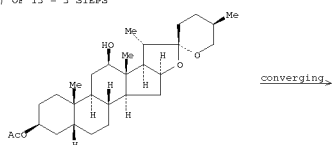


L6 ANSWER 31 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

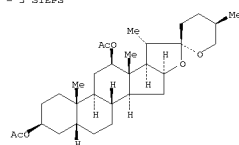
RX(13) OF 13 - 3 STEPS



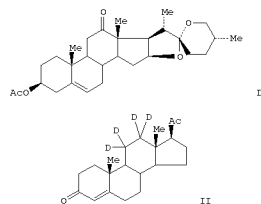
RX(13) OF 13 - 3 STEPS



RX(13) OF 13 - 3 STEPS

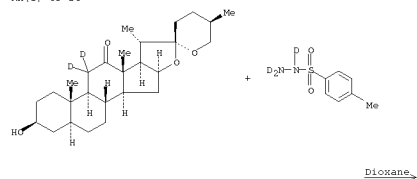


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on STN  
 AN 113:191726 CASREACT  
 TI Synthesis of [11,11,12,12-2H<sub>4</sub>]progesterone for mass spectral  
 investigations of peripheral metabolism  
 AU Kirk, David N.; Smith, Carmen E.; Honour, John W.  
 CS Dep. Chem., Queen Mary Coll., London, E1 4NS, UK  
 SO Steroids (1990), 55(5), 222-7  
 CODEN: STEDAM; ISSN: 0039-128X  
 DT Journal  
 LA English  
 GI



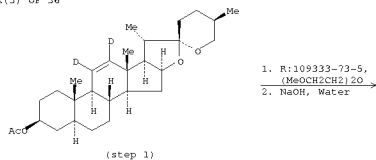
AB Hecogenin acetate I has been transformed into [11,11,12,12-2H<sub>4</sub>]progesterone (II) via base-catalyzed isotope exchange with D<sub>2</sub>O (at C-11), carbene decomposition of the 12-tosylhydrazone formed by the use of [N,N,N'-2H<sub>3</sub>]toluene-p-sulfonylhydrazine, and reduction with [2H<sub>2</sub>]dimide to give [11,11,12,12-2H<sub>4</sub>]tigogenin, followed by standard degradation of the spiroketal side chain and dehydrogenation in ring A.

RX(1) OF 36

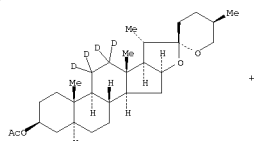


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

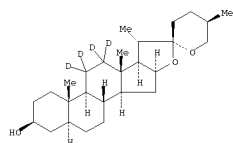
RX(3) OF 36



RX(3) OF 36

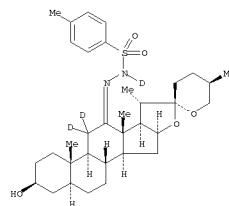


RX(3) OF 36

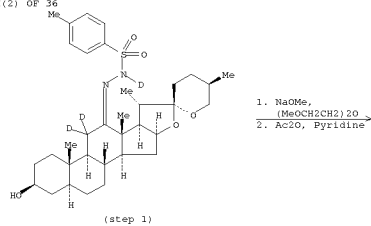


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

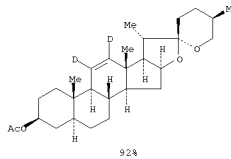
RX(1) OF 36



RX(2) OF 36

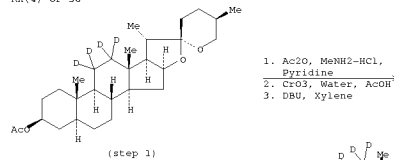


RX(2) OF 36

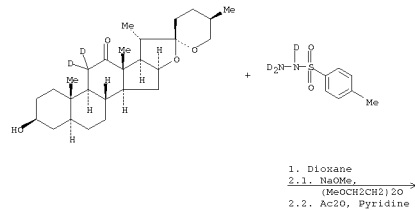


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

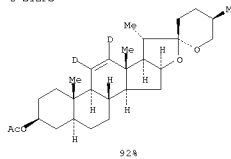
RX(4) OF 36



RX(9) OF 36 - 2 STEPS

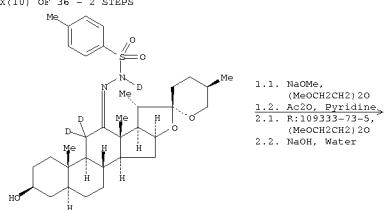


RX(9) OF 36 - 2 STEPS

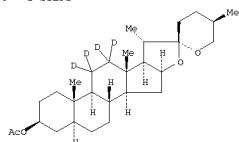


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

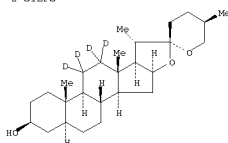
RX(10) OF 36 - 2 STEPS



RX(10) OF 36 - 2 STEPS

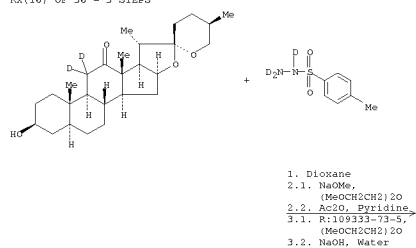


RX(10) OF 36 - 2 STEPS

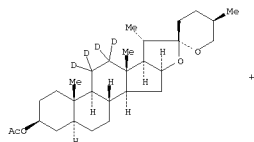


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

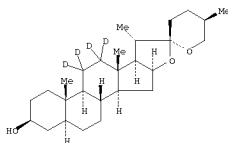
RX(16) OF 36 - 3 STEPS



RX(16) OF 36 - 3 STEPS

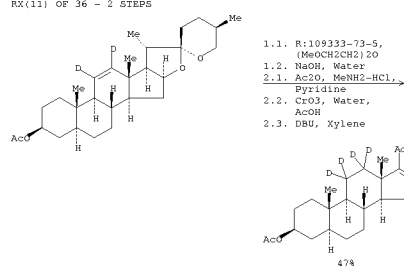


RX(16) OF 36 - 3 STEPS

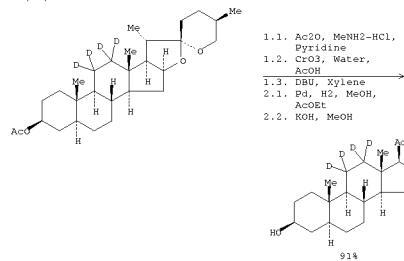


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(11) OF 36 - 2 STEPS

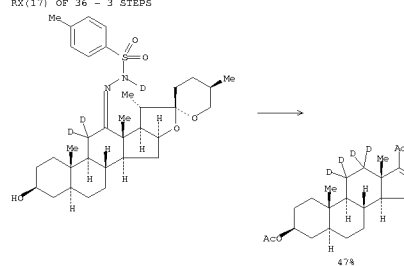


RX(12) OF 36 - 2 STEPS

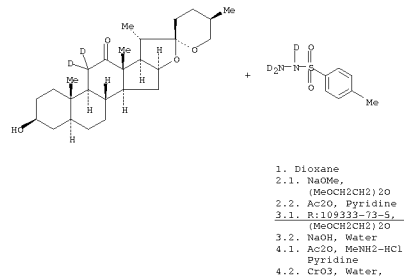


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

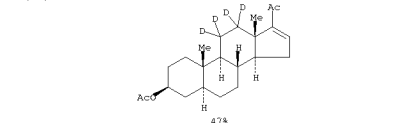
RX(17) OF 36 - 3 STEPS



RX(18) OF 36 - 4 STEPS

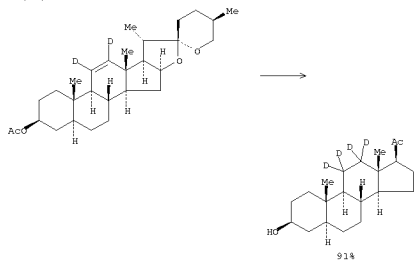


RX(18) OF 36 - 4 STEPS

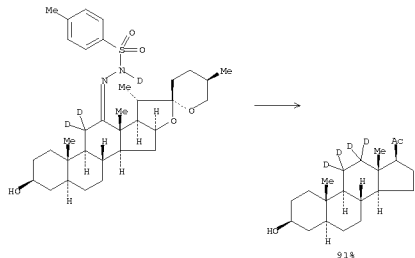




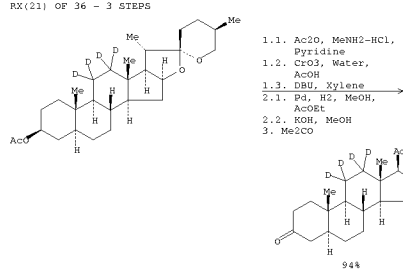
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)  
RX(19) OF 36 - 3 STEPS



RX(20) OF 36 - 4 STEPS

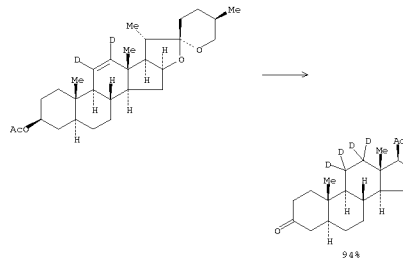


L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)  
RX(21) OF 36 - 3 STEPS



NOTE: 3) Jones oxidn.

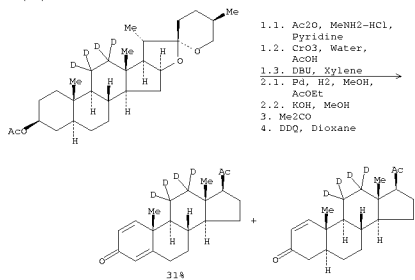
RX(22) OF 36 - 4 STEPS



NOTE: 4) Jones oxidn.

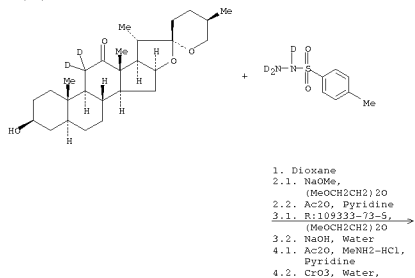
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(24) OF 36 - 4 STEPS



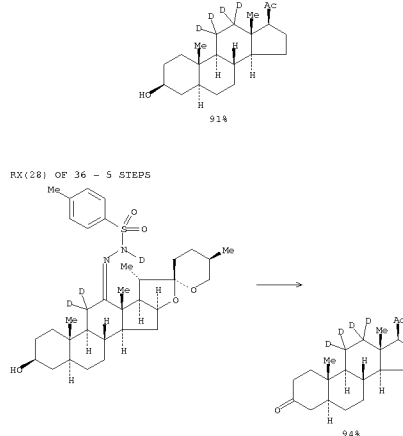
NOTE: 3) Jones oxidn.

RX(27) OF 36 - 5 STEPS



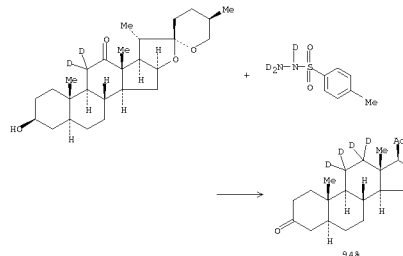
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(27) OF 36 - 5 STEPS



NOTE: 5) Jones oxidn.

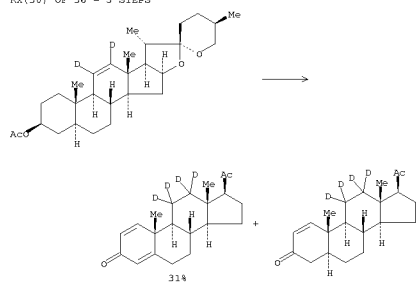
RX(29) OF 36 - 6 STEPS



NOTE: 6) Jones oxidn.

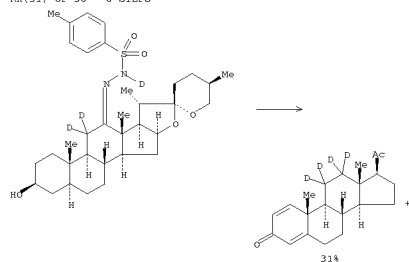
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(30) OF 36 - 5 STEPS



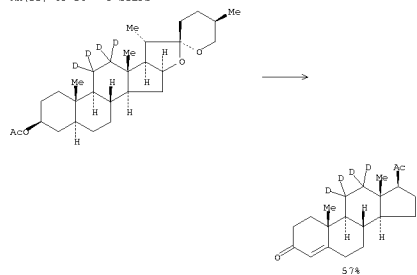
NOTE: 4) Jones oxidn.

RX(31) OF 36 - 6 STEPS



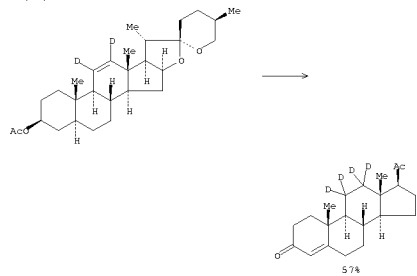
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(33) OF 36 - 5 STEPS



NOTE: 3) Jones oxidn.

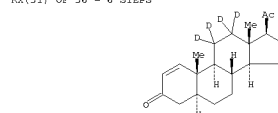
RX(34) OF 36 - 6 STEPS



NOTE: 4) Jones oxidn.

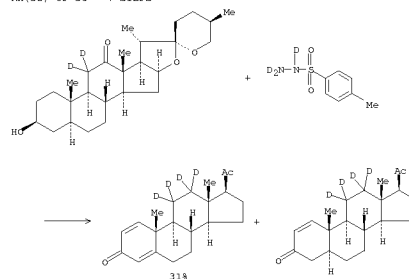
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(31) OF 36 - 6 STEPS



NOTE: 5) Jones oxidn.

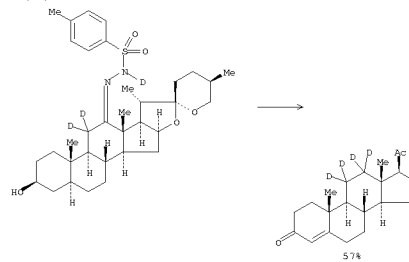
RX(32) OF 36 - 7 STEPS



NOTE: 6) Jones oxidn.

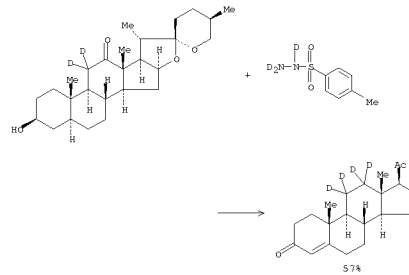
L6 ANSWER 32 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(35) OF 36 - 7 STEPS



NOTE: 5) Jones oxidn.

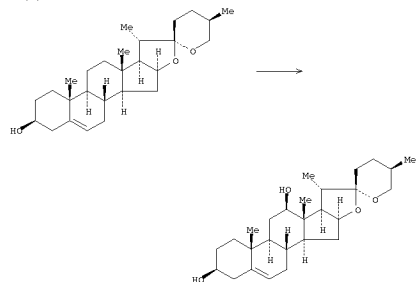
RX(36) OF 36 - 8 STEPS



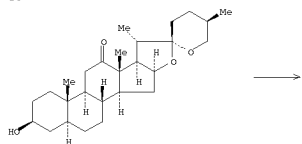
NOTE: 6) Jones oxidn.

L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
 AN 113:129133 CASREACT  
 TI Microbiological transformations of hecogenin and diosgenin by  
 Cunninghamella elegans  
 AU Blunden, Gerald; Patel, Asmita V.; Crabb, Trevor A.  
 CS Sch. Pharm. Biomed. Sci., Portsmouth Polytech., Portsmouth, PO1 2DZ, UK  
 SO Phytochemistry (1990), 29(6), 1771-80  
 CODEN: PHYCAS; ISSN: 0031-9422  
 DT Journal  
 LA English  
 AB Incubation of hecogenin with *C. elegans* led to the formation of  
 (25R)-1 $\beta$ ,3 $\beta$ ,7 $\beta$ -trihydroxy-5 $\alpha$ -spirostan-12-one,  
 (25R)-3 $\beta$ ,7 $\beta$ -dihydroxy-5 $\alpha$ -spirostan-12-one, and  
 (25R)-3 $\beta$ -hydroxy-5 $\alpha$ -spirostane-7,12-dione. Incubation of  
 (25R)-spirost-5-en-3 $\beta$ -ol (diosgenin) with the same fungus gave rise to  
 (25R)-spirost-5-en-3 $\beta$ ,7 $\beta$ ,12 $\beta$ -triol and  
 (25R)-3 $\beta$ ,12 $\beta$ -dihydroxy-spirost-5-en-7-one.

RX(1) OF 14

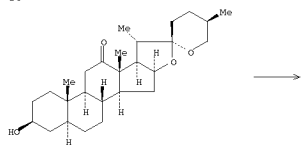


RX(2) OF 14

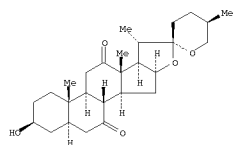


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

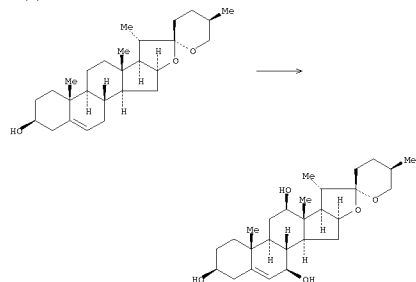
RX(4) OF 14



RX(4) OF 14

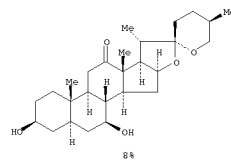


RX(5) OF 14

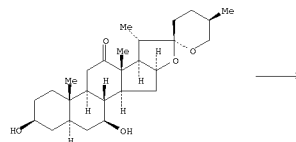


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

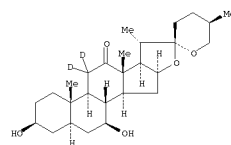
RX(2) OF 14



RX(3) OF 14

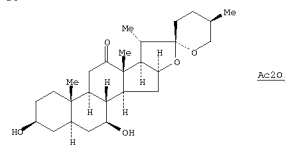


RX(3) OF 14

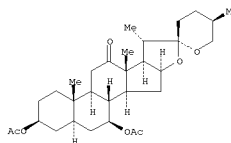


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

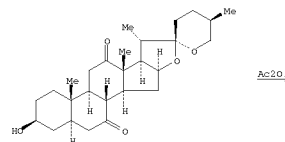
RX(6) OF 14



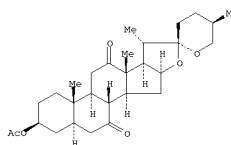
RX(6) OF 14



RX(7) OF 14

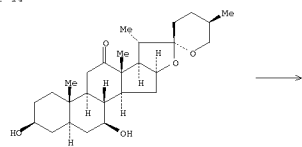


RX(7) OF 14

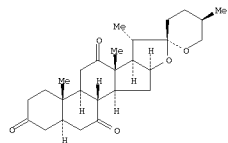


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

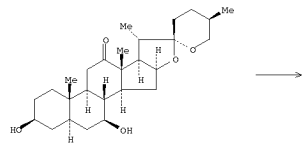
RX(8) OF 14



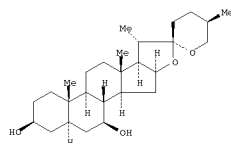
RX(8) OF 14



RX(9) OF 14

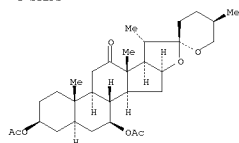


RX(9) OF 14

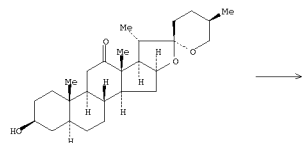


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

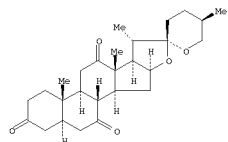
RX(11) OF 14 - 2 STEPS



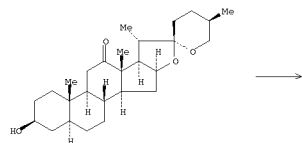
RX(12) OF 14 - 2 STEPS



RX(12) OF 14 - 2 STEPS

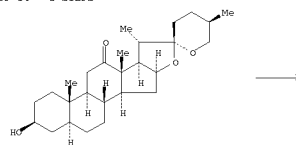


RX(13) OF 14 - 2 STEPS

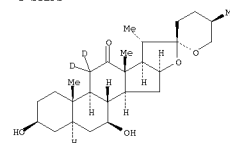


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

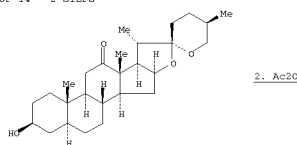
RX(10) OF 14 - 2 STEPS



RX(10) OF 14 - 2 STEPS

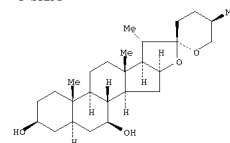


RX(11) OF 14 - 2 STEPS

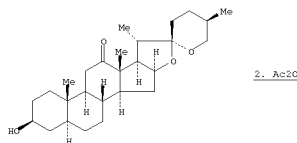


L6 ANSWER 33 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

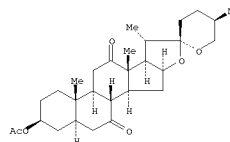
RX(13) OF 14 - 2 STEPS



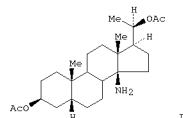
RX(14) OF 14 - 2 STEPS



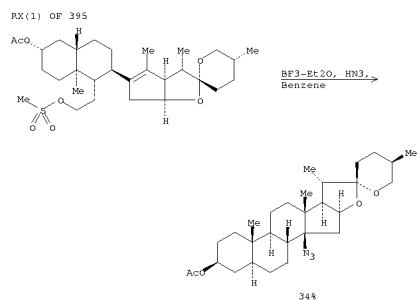
RX(14) OF 14 - 2 STEPS



L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
 AN 112:98961 CASREACT  
 TI Introduction of a 14 $\beta$ -amino function into a steroid nucleus.  
 Application to the cardioactive 14 $\beta$ -amino-5 $\beta$ -pregnane-  
 3 $\beta$ ,20 $\beta$ -diol starting from progesterone and deoxycholic acid  
 AU Adeoti, S. B.; Charpentier, B.; Montagnac, A.; Chiaroni, A.; Riche, C.;  
 Pais, M.  
 CS Inst. Chim. Subst. Nat., Gif-sur-Yvette, 91198, Fr.  
 SO Tetrahedron (1999), 45(12), 3717-30  
 CODEN: TETRAH; ISSN: 0040-4020  
 DT Journal  
 LA French  
 GI

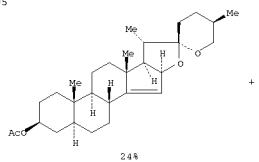


AB Two methods were studied for introducing a 14 $\beta$ -amino function into a steroid mol.: (i)  $\pi$ -cyclization of a 12,13-seco- $\Delta$ 13-steroid bearing a 12-methanesulfonyl group in the presence of NH<sub>3</sub>, BF<sub>3</sub>·Et<sub>2</sub>O or ammonia, (ii) treatment of a  $\Delta$ 14-steroid with NH<sub>3</sub>, BF<sub>3</sub>·Et<sub>2</sub>O. This second method allowed the preparation of the cardioactive 14 $\beta$ -amino-5 $\beta$ -pregnane-3 $\beta$ ,20 $\beta$ -diol (I) starting from the easily available steroids deoxycholic acid and progesterone.

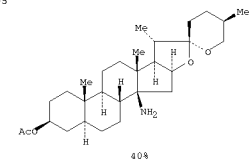


L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

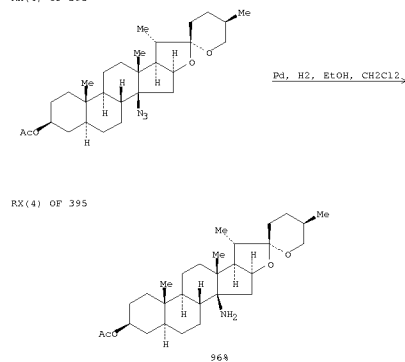
RX(3) OF 395



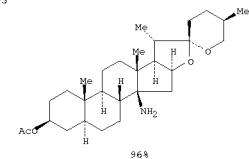
RX(3) OF 395



RX(4) OF 395

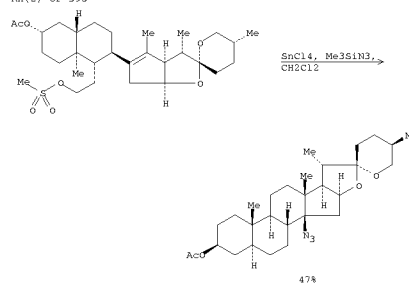


RX(4) OF 395

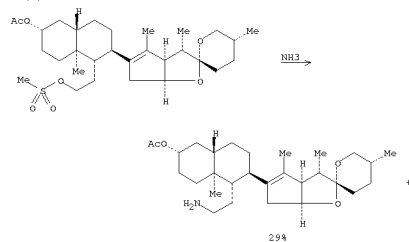


L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(2) OF 395

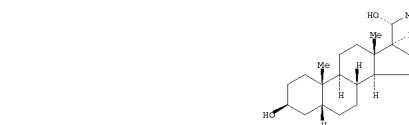
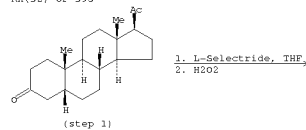


RX(3) OF 395

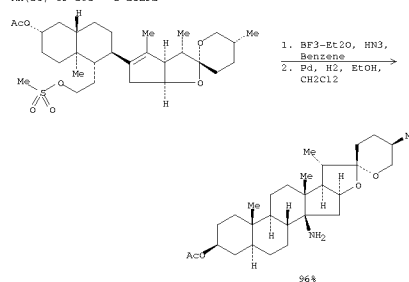


L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(32) OF 395

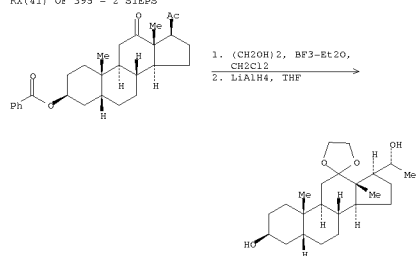


RX(36) OF 395 - 2 STEPS

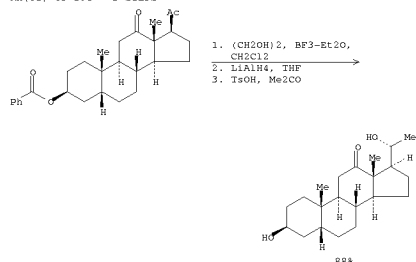


L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(41) OF 395 - 2 STEPS

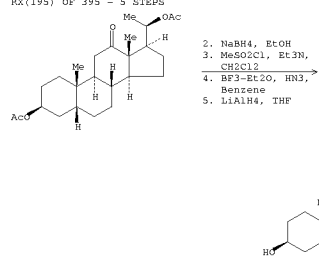


RX(81) OF 395 - 3 STEPS



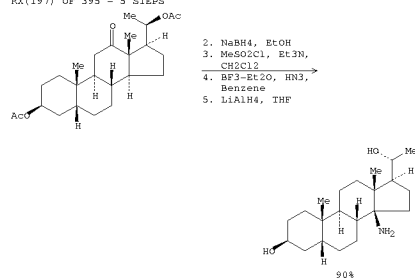
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(195) OF 395 - 5 STEPS



NOTE: 1) photochem.

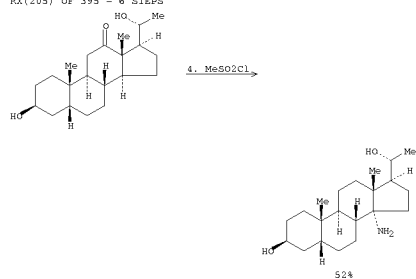
RX(197) OF 395 - 5 STEPS



NOTE: 1) photochem.

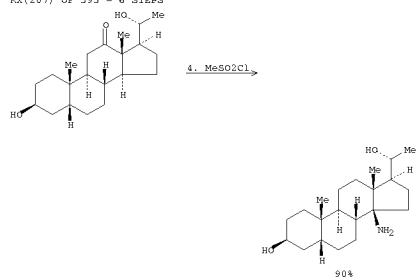
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(205) OF 395 - 6 STEPS



NOTE: 2) photochem.

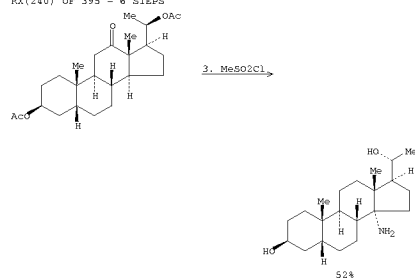
RX(207) OF 395 - 6 STEPS



NOTE: 2) photochem.

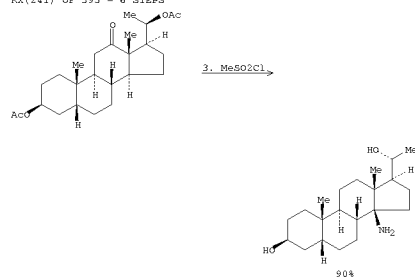
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(240) OF 395 - 6 STEPS



NOTE: 1) photochem.

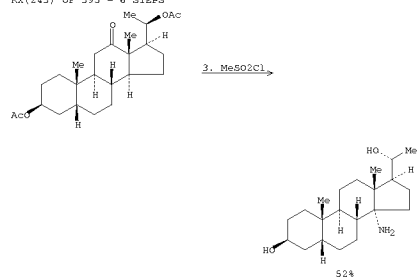
RX(241) OF 395 - 6 STEPS



NOTE: 1) photochem.

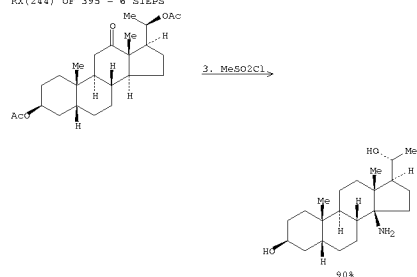
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(243) OF 395 - 6 STEPS



NOTE: 1) photochem.

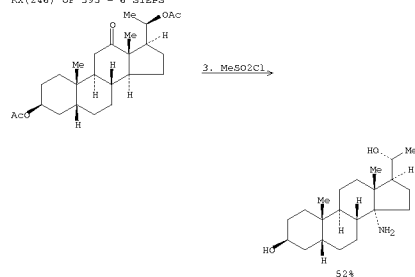
RX(244) OF 395 - 6 STEPS



NOTE: 1) photochem.

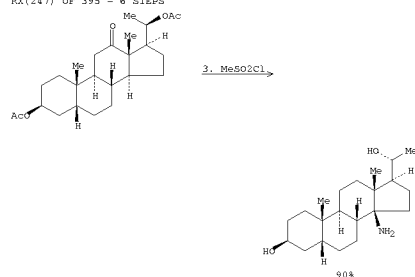
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(246) OF 395 - 6 STEPS



NOTE: 1) photochem.

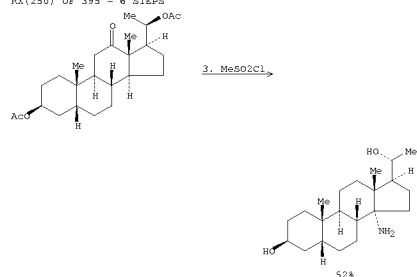
RX(247) OF 395 - 6 STEPS



NOTE: 1) photochem.

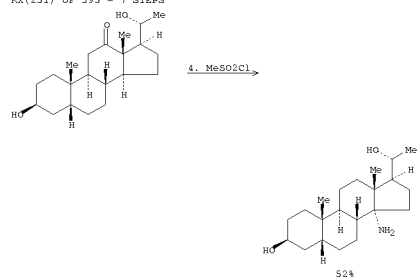
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(250) OF 395 - 6 STEPS



NOTE: 1) photochem.

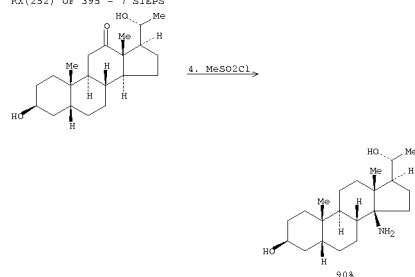
RX(251) OF 395 - 7 STEPS



NOTE: 2) photochem.

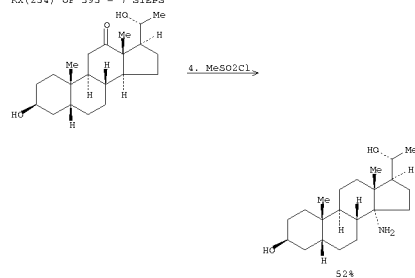
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(252) OF 395 - 7 STEPS



NOTE: 2) photochem.

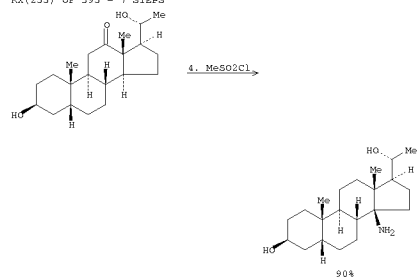
RX(254) OF 395 - 7 STEPS



NOTE: 2) photochem.

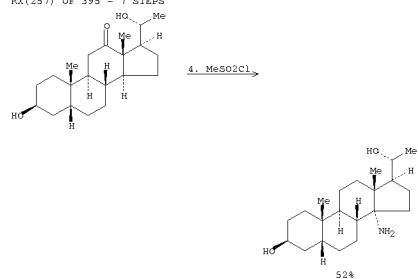
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(255) OF 395 - 7 STEPS



NOTE: 2) photochem.

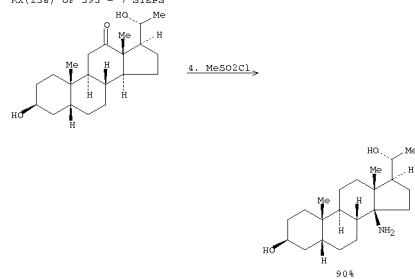
RX(257) OF 395 - 7 STEPS



NOTE: 2) photochem.

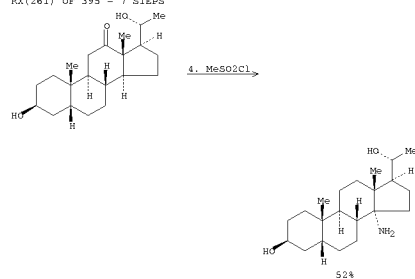
L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(258) OF 395 - 7 STEPS



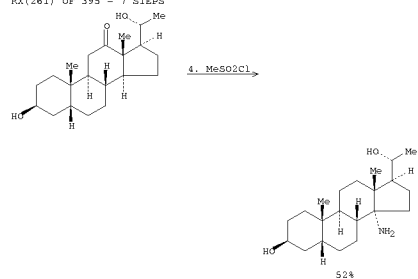
NOTE: 2) photochem.

RX(261) OF 395 - 7 STEPS



L6 ANSWER 34 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(261) OF 395 - 7 STEPS





=> d bib abs crd 35-

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LN ANSWER 35 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN
L1 12:195499 CASREACT
TI Steroids of the spirostane and furostane series from the genus Allium.
L1 XVI. Structure of anuzorenin C and anuzoride from fruits of Allium
L1 suworovi and A. stipitatum
AU Vollener, Yu. S.; Kravets, S. D.; Shashkov, S. Y.; Gorovits, M. B.;
L1 Abubakirov, N. K.
L1 INK. Khim. Rast. Veshchestv, Tsakent, USSR
50 Khimiya Prirodnykh Soedinenii (1989), (4), 505-10
L1 CODEN: KPSUAR; ISSN: 0023-1150
DI Journal
L1 LA Russian
L1 GI

```

AB A new steroid glycoside of the spirostane series, anzuroside (I), was isolated from the title *Allium* species; enzymic cleavage of I gave the native genin, anzuogenin C (II). The structures of I and II were confirmed by NMR spectroscopy, derivatization, and other phys.-chemical means.

RX(1) OF 1



RX(1) OF 1



AN	ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS ON STN
LN	110154686 CASPACT
TI	Schmidt reaction of (25R)-6-oxo- $\pi$ -spirostan-5 $\alpha$ -13 $\beta$ -alkyl ether
AU	and Beckmann rearrangement of the corresponding ketoxime
TI	Siddiqui, A. R.; Ramesh, D.; Reddy, K. Sudhakar; Memonian, Mahmood; Rao,
CS	S. S. Satyanarayan
SO	Dep. Chem., Nizam Coll., Hyderabad, 500 001, India
CO	Journal of the Indian Chemical Society (1988), 65(9), 672-3
DI	CODEN JICSDJ ISSN: 0019-4522
DT	Journal
LA	English

AB The Schmidt reaction of title spirostanes I (R = Me, Et; X = O) with  $\text{NaN}_3/\text{H}_2\text{SO}_4$  gave seco nitriles II. The Beckman rearrangement of oximes I (R = Me, Et; X =  $\text{NHOH}$ ) also gave II.

RX(1) OF 26

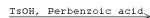


stereoisomers  
75%

16 ANSWER 35 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

16 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(2) OF 26



stereoisomers  
754

RX(3) OF 26

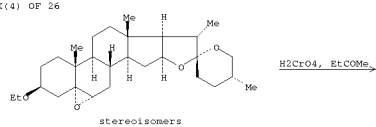


RX(3) OF 26

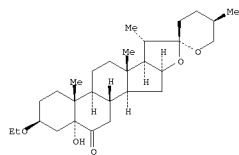


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

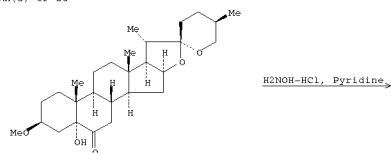
RX(4) OF 26



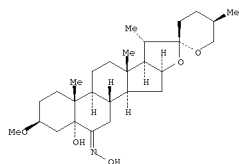
RX(4) OF 26



RX(5) OF 26

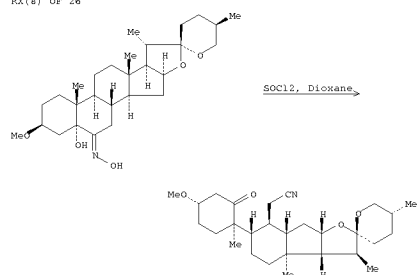


RX(5) OF 26

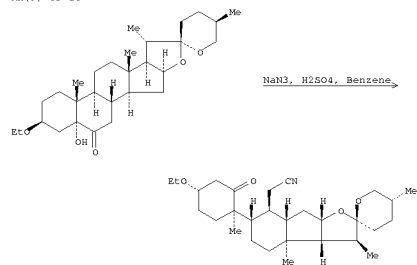


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(8) OF 26

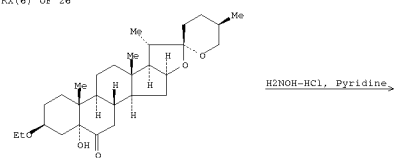


RX(9) OF 26

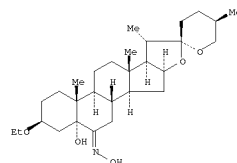


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

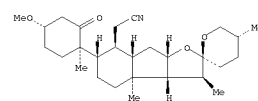
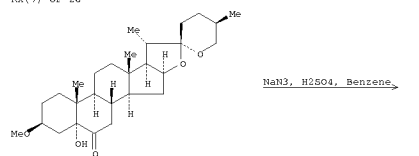
RX(6) OF 26



RX(6) OF 26

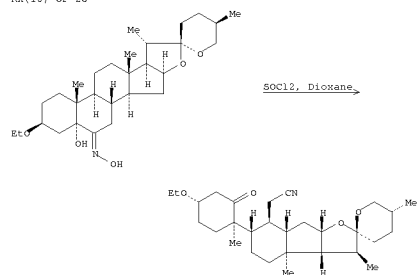


RX(7) OF 26

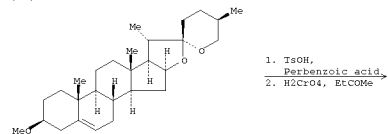


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

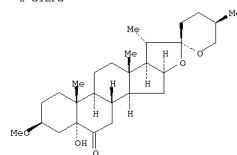
RX(10) OF 26



RX(11) OF 26 - 2 STEPS

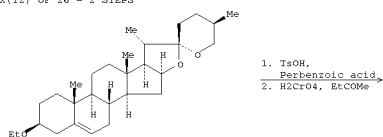


RX(11) OF 26 - 2 STEPS

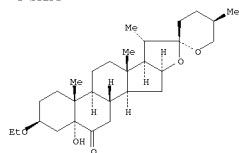


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

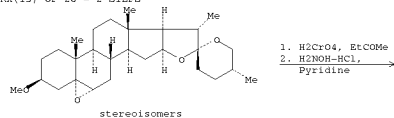
RX(12) OF 26 - 2 STEPS



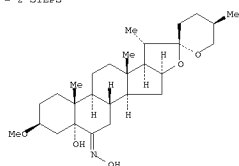
RX(12) OF 26 - 2 STEPS



RX(13) OF 26 - 2 STEPS

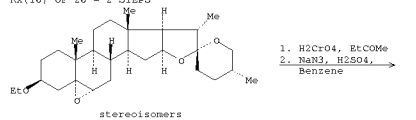


RX(13) OF 26 - 2 STEPS

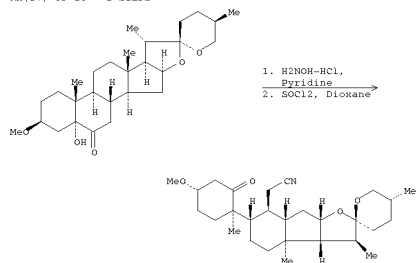


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(16) OF 26 - 2 STEPS

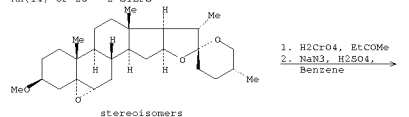


RX(17) OF 26 - 2 STEPS

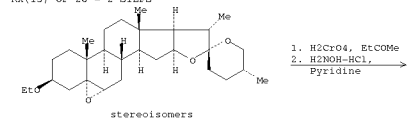


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

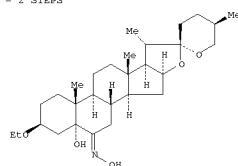
RX(14) OF 26 - 2 STEPS



RX(15) OF 26 - 2 STEPS

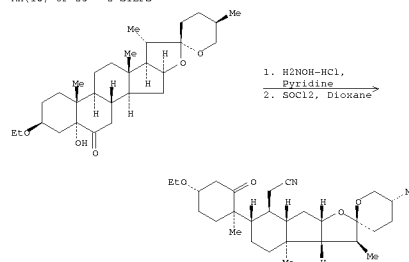


RX(15) OF 26 - 2 STEPS

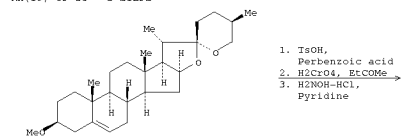


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

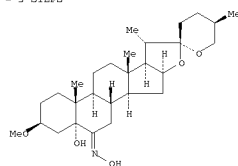
RX(18) OF 26 - 2 STEPS



RX(19) OF 26 - 3 STEPS

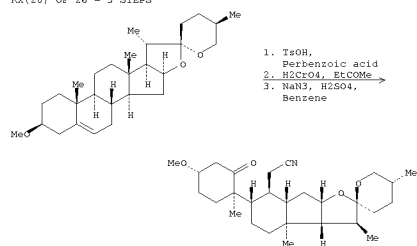


RX(19) OF 26 - 3 STEPS

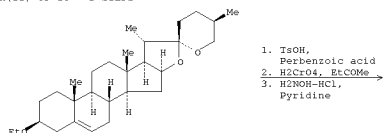


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

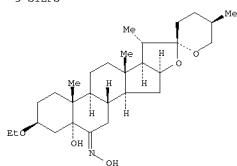
RX(20) OF 26 - 3 STEPS



RX(21) OF 26 - 3 STEPS

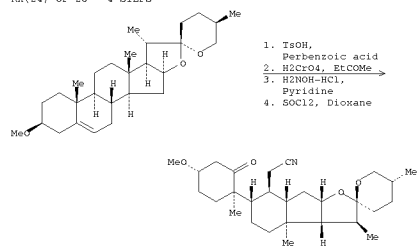


RX(21) OF 26 - 3 STEPS

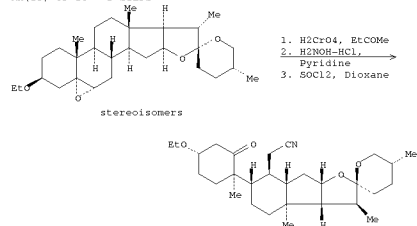


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(24) OF 26 - 4 STEPS

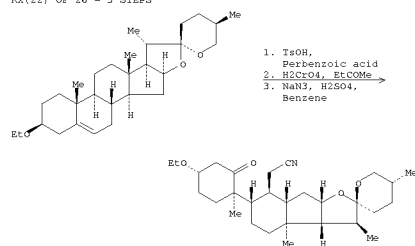


RX(25) OF 26 - 3 STEPS

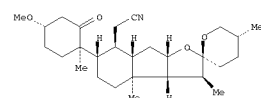
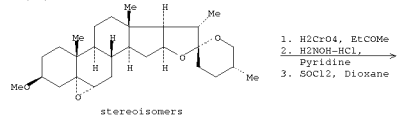


L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(22) OF 26 - 3 STEPS

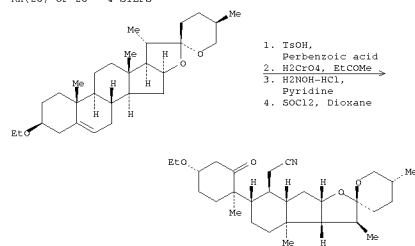


RX(23) OF 26 - 3 STEPS



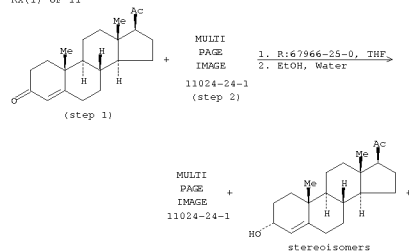
L6 ANSWER 36 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(26) OF 26 - 4 STEPS

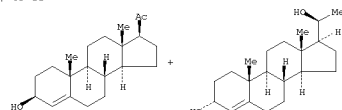


L6 ANSWER 37 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
 AN 105:153383 CASREACT  
 II Synthesis of the allylic gonadal steroids, 3 $\alpha$ -hydroxy-4-pregnen-20-one and 3 $\alpha$ -hydroxy-4-androsten-17-one, and of 3 $\alpha$ -hydroxy-5 $\alpha$ -pregnan-20-one  
 AU Wiebe, J. P.; Deline, C.; Buckingham, K. D.; Dave, Vinod; Stothers, J. B.  
 CS Dep. Zool., Univ. West. Ontario, London, N6A 5B7, UK  
 SO Steroids (1985), 45(1), 39-51  
 CODEN: STERDH; ISSN: 0039-128X  
 DT Journal  
 LA English  
 AB The recently isolated allylic gonadal steroids, 3 $\alpha$ -hydroxy-4-pregnen-20-one (I) and 3 $\alpha$ -hydroxy-4-androsten-17-one (II) were prepared using progesterone and 4-androstene-3,17-dione as substrates and potassium triisiamylborohydride (KS-Selectride) as reducing agent. Similar reactions were also used for the reduction of 5 $\alpha$ -pregnane-3,20-dione to 3 $\alpha$ -hydroxy-5 $\alpha$ -pregnan-20-one (III). The yields were about 15%, 50%, and >90% for I, II, and III, resp. Structures of the products, including the 3 $\beta$ -isomers and the 17 $\alpha$ -epimer, formed in these reactions were determined by NMR and mass spectroscopic methods.

RX(1) OF 11

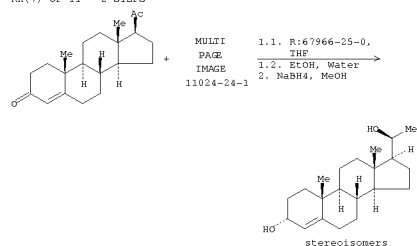


RX(1) OF 11

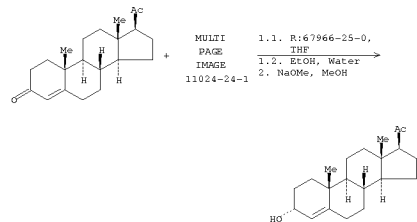


L6 ANSWER 37 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(7) OF 11 - 2 STEPS

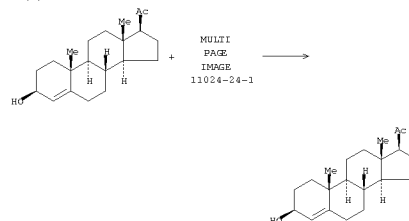


RX(9) OF 11 - 2 STEPS

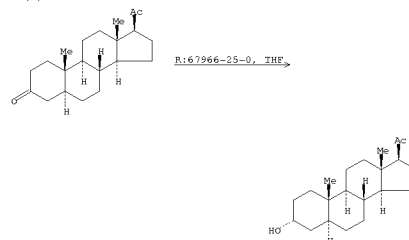


L6 ANSWER 37 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(4) OF 11

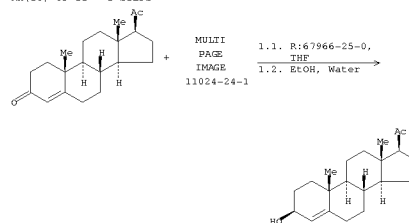


RX(6) OF 11

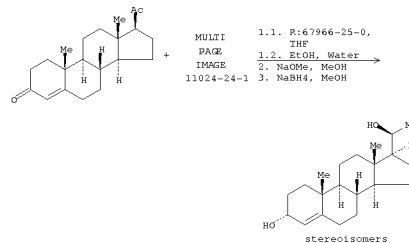


L6 ANSWER 37 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

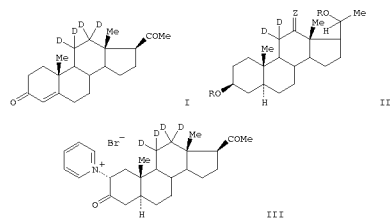
RX(10) OF 11 - 2 STEPS



RX(11) OF 11 - 3 STEPS

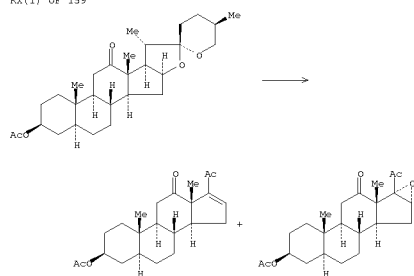


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN  
 AN 103:6993 CASREACT  
 TI Synthesis of 11,11,12,12-tetrauteroprogesterone  
 AU Golubovskaya, L. E.; Plivitskii, K. K.  
 CS Inst. Eksp. Endokrinol. Khim. Gorm., Moscow, USSR  
 SO Zhurnal Obshchei Khimii (1985), 55(2), 427-40  
 CODEN: ZOKHAA4; ISSN: 0044-460X  
 DT Journal  
 LA Russian  
 GI



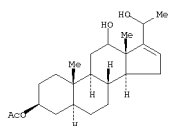
AB The tetrauteroprogesterone I was prepared from hecogenin acetate. Key steps included Huang-Minlon reduction of oxo diol II (R = D; Z = O) to give II (R = H; Z = D2), and pyrolytic elimination reaction of pyridinium salt III to give I.

RX(1) OF 159

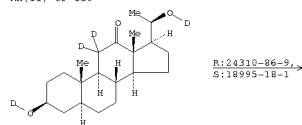


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

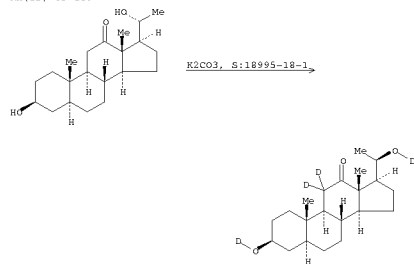
RX(8) OF 159



RX(11) OF 159

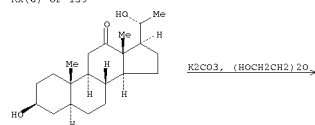


RX(13) OF 159

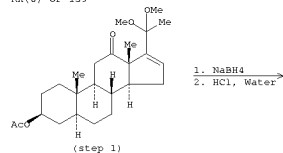


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(6) OF 159

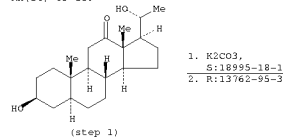


RX(8) OF 159

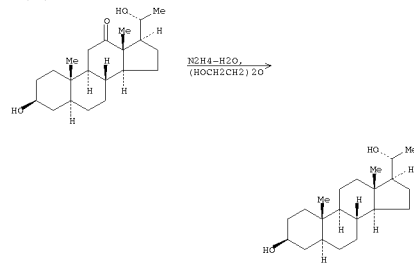


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(14) OF 159

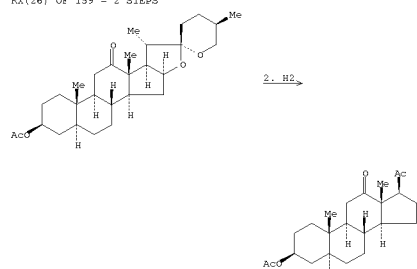


RX(15) OF 159

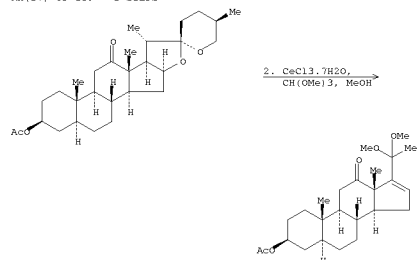


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(26) OF 159 - 2 STEPS

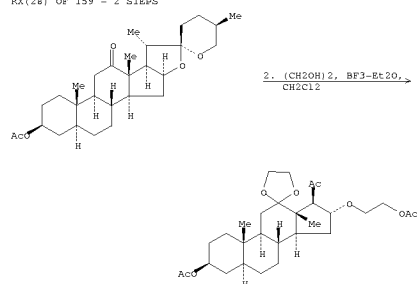


RX(27) OF 159 - 2 STEPS

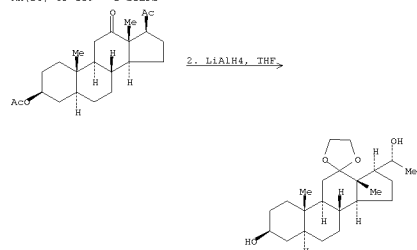


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(28) OF 159 - 2 STEPS

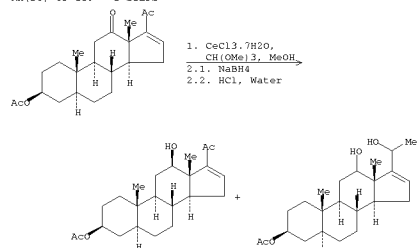


RX(30) OF 159 - 2 STEPS

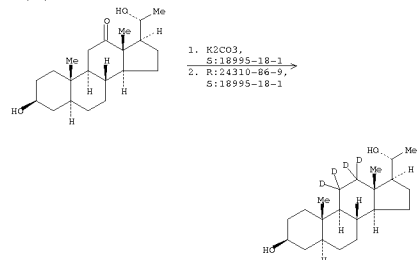


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(36) OF 159 - 2 STEPS

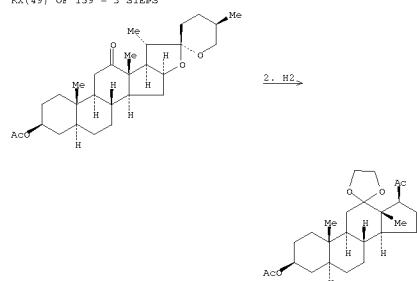


RX(39) OF 159 - 2 STEPS

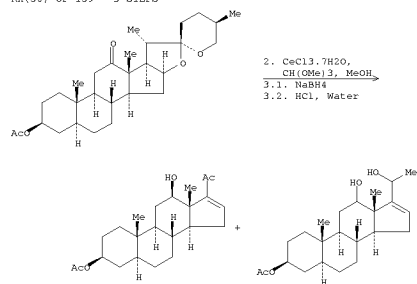


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(49) OF 159 - 3 STEPS



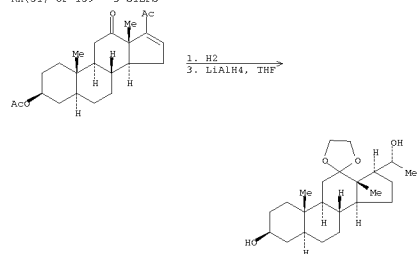
RX(50) OF 159 - 3 STEPS



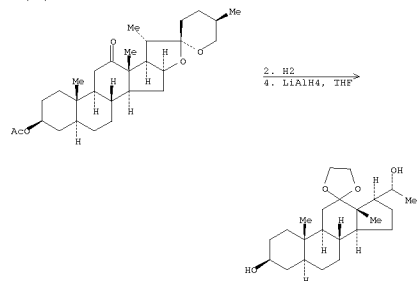


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(51) OF 159 - 3 STEPS

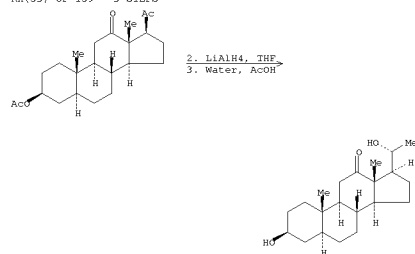


RX(52) OF 159 - 4 STEPS

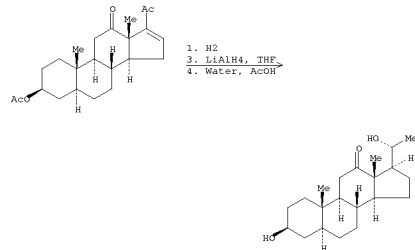


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(53) OF 159 - 3 STEPS

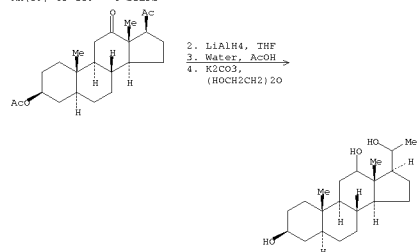


RX(54) OF 159 - 4 STEPS



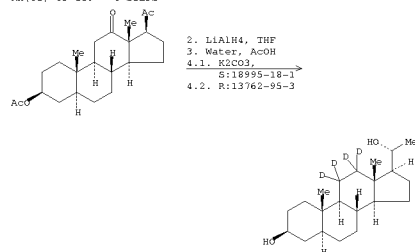
L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(59) OF 159 - 4 STEPS

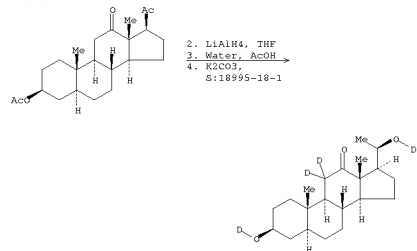


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

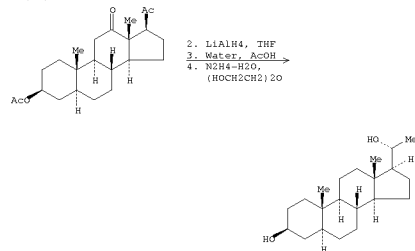
RX(61) OF 159 - 4 STEPS



RX(60) OF 159 - 4 STEPS

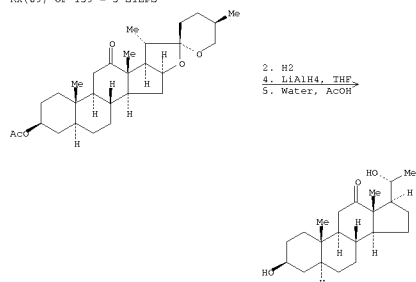


RX(62) OF 159 - 4 STEPS

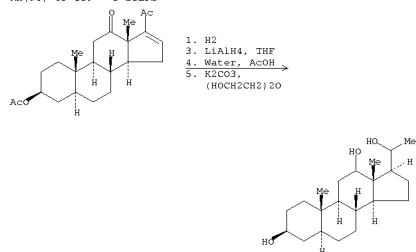


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(89) OF 159 - 5 STEPS

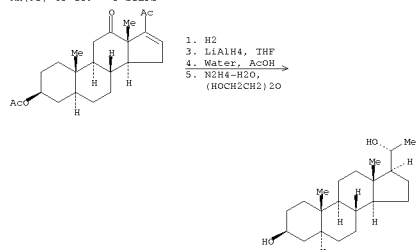


RX(90) OF 159 - 5 STEPS

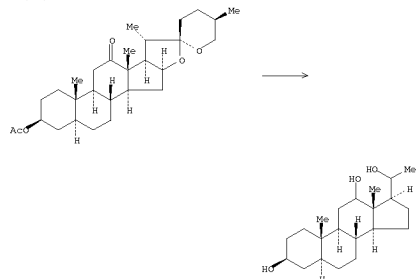


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(93) OF 159 - 5 STEPS

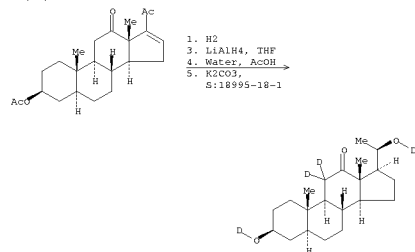


RX(94) OF 159 - 6 STEPS

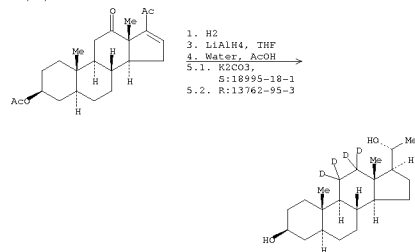


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(91) OF 159 - 5 STEPS

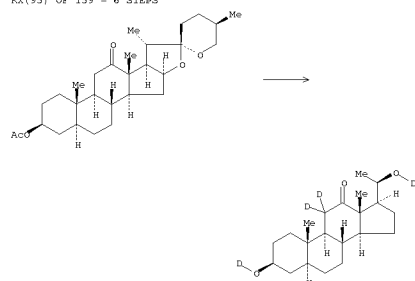


RX(92) OF 159 - 5 STEPS

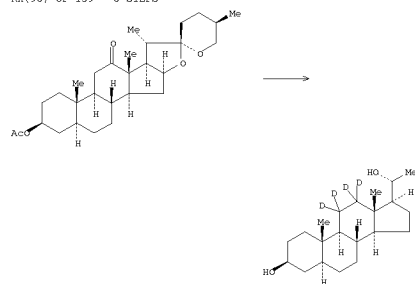


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(95) OF 159 - 6 STEPS

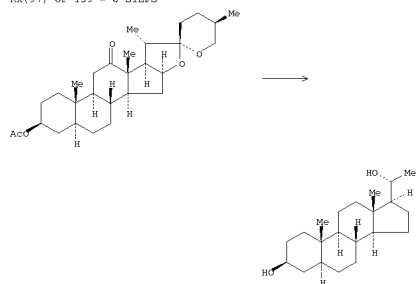


RX(96) OF 159 - 6 STEPS

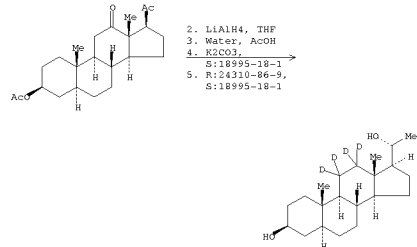


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(97) OF 159 - 6 STEPS

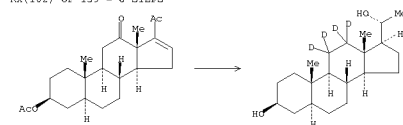


RX(99) OF 159 - 5 STEPS

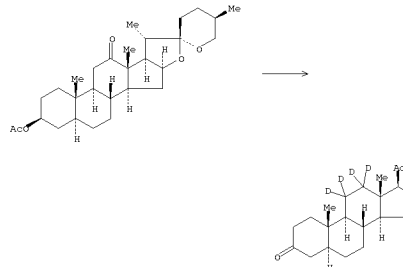


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(102) OF 159 - 6 STEPS

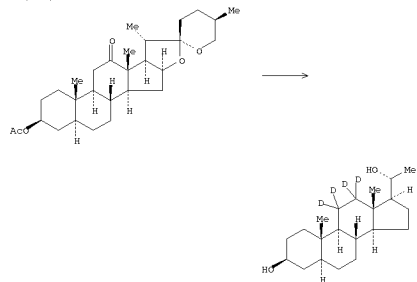


RX(104) OF 159 - 7 STEPS

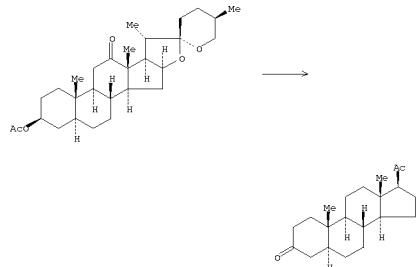


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(105) OF 159 - 7 STEPS

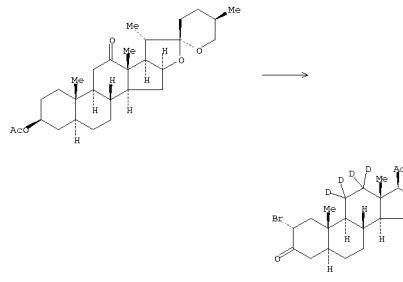


RX(106) OF 159 - 7 STEPS

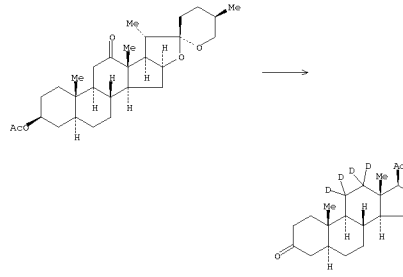


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(116) OF 159 - 8 STEPS

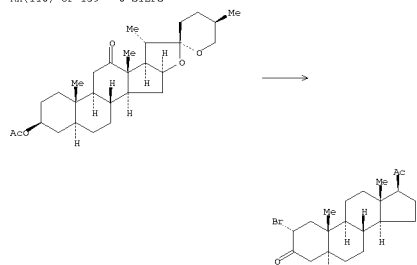


RX(117) OF 159 - 8 STEPS

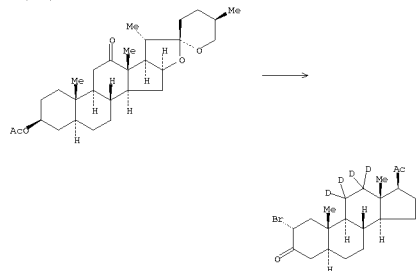


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(118) OF 159 - 8 STEPS

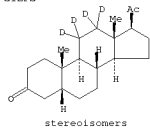


RX(146) OF 159 - 9 STEPS

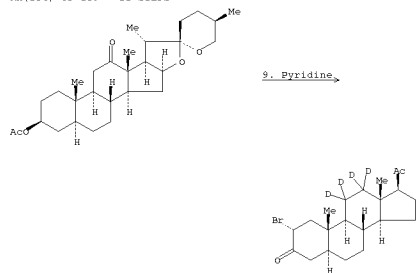


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

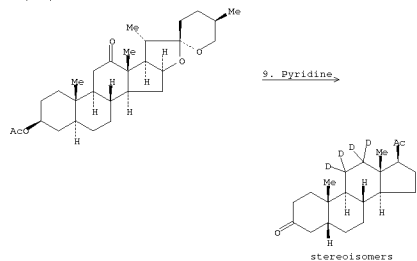
RX(149) OF 159 - 10 STEPS



RX(154) OF 159 - 11 STEPS

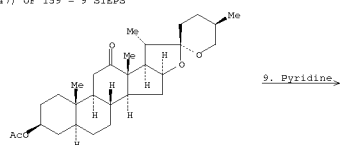


RX(155) OF 159 - 11 STEPS

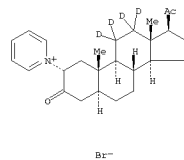


L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

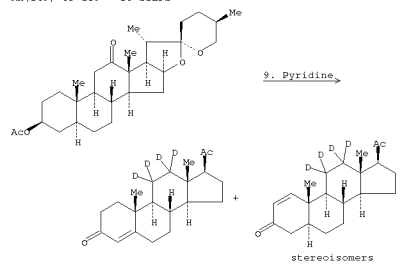
RX(147) OF 159 - 9 STEPS



RX(147) OF 159 - 9 STEPS

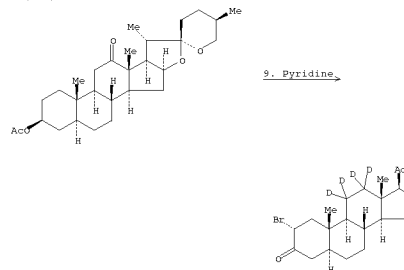


RX(149) OF 159 - 10 STEPS



L6 ANSWER 38 OF 38 CASREACT COPYRIGHT 2008 ACS on SIN (Continued)

RX(159) OF 159 - 12 STEPS



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